TOPCON IC-1 AUTO

(80A)

GUIDE for REPAIR

1974 - August

TOKYO KOGAKU KIKAI K.K

TOKYO JAPAN

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CONTENTS

		Page
1. Repair Tools		
(1)	Exclusive Tools for the TOPCON IC-1	1
(2)	General TOPCON Repair Tools	1-2
2. Disassebling Procedures		
(1)	Top Cover	3
(2)	Base Plate	3
(3)	Shutter Front Plate Unit	4
(4)	Shutter Assembly	5
(5)	Meter Unit	6
(6)	Bayonet Mount Sub-Assembly	6
(7)	Speed Ring Assembly	6
(8)	Exposure Counter	7
(9)	Winding Shaft	7
(10)	Spool	7
(11)	Sprocket	7
(12)	Accessory Shoe	8
3. Pointers in Assembling		
(1)	Shutter	9
(2)	Attachment of Exposure Meter	9
(3)	Attachment of Partial Gear & Coupling Shaft	10
(4)	Adjustment of EE Coupling	11
(5)	Adjustment of Shutter Release	11
(6)	Adjustment of Bulb Setting	12
(7)	Attachment and Adjustment of Safety Main Switch	12
(8)	Attachment of Shutter Assembly	13-14
(9)	Adjustment of Mechanical Flange-Focal Distance	15
(10)	Attachment and Adjustment of Winding Wire and Stopper	15
(11)	Attachment of Exposure Counter	16
(12)	Attachment of Pentaprism	17
(13)	Focusing Adjustment	17
(14)	Wiring	18
(15)	Exposure Adjustment	18

Page

4. Trouble Shooting (Trouble, their origins & corrective measures)

(1) Shutter

1. Improper shutter speed 19
2. Shutter speed is too fast 20
3. Faulty time-lag 20
4. Electronic flash fires accidentally 21

(2) Widing Action

1. Winding is not possible 21
2. Double exposure prevention is not working 22
3. Insufficient charging with winding action 22
4. Faulty film take-up action 22
5. Exposure counter 22

(3) Exposure Meter

1. Meter needle movement 23
2. Poor sensitivity 23
3. Defective EE (Electric Eye) operation 24

(4) Focus

1. Mechanical flange-focal distance 24
2. Finder 24
3. Lens 24

(5) Inspection Standards

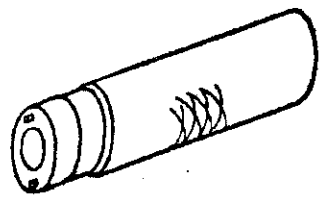
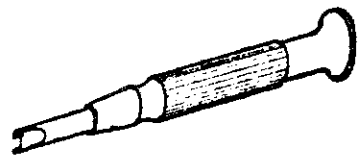
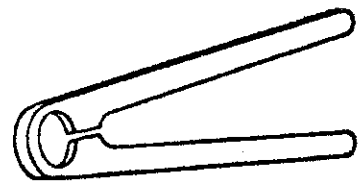
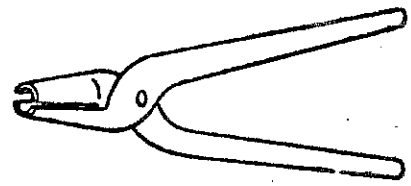
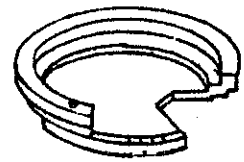
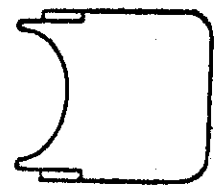
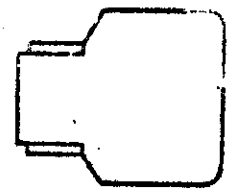
1. Shutter 25
2. Exposure meter 25

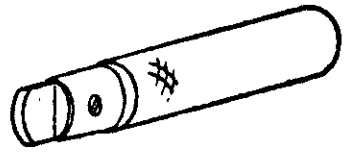
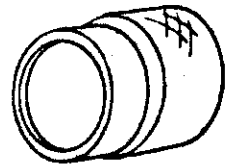
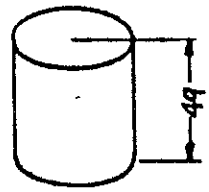
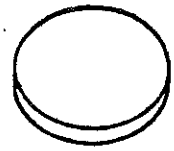
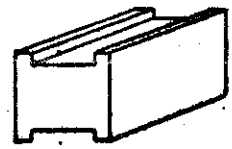
5. Troubles, Checking Methods and Repairs in the Electrical System

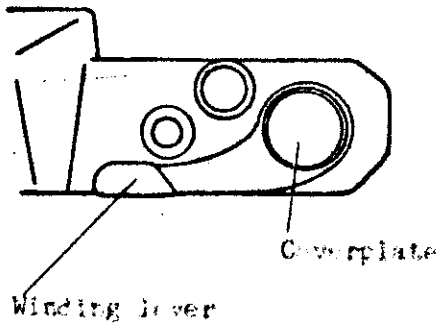
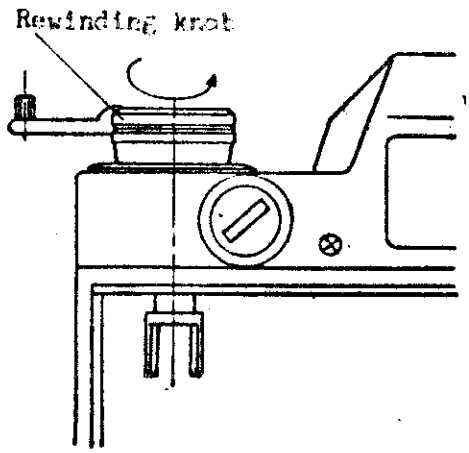
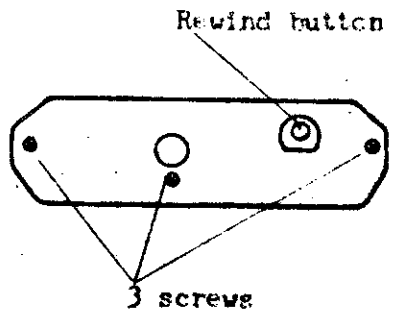
(1) Mirror Swing Up and Shutter Opens 26
(2) Mirror Swing Up and Shutter Opens only on 1/1 second 27
(3) Flash Fires Prematurely 28
(4) Fast Battery Consumption 29

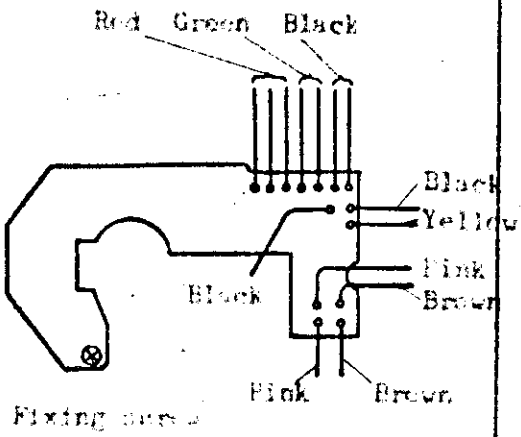
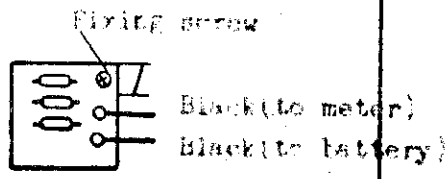
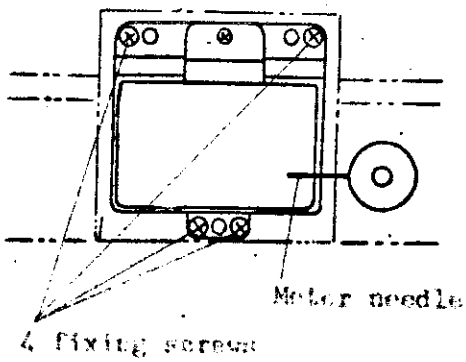
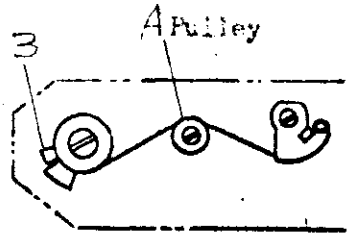
REPAIR TOOLS FOR THE TOPCON IC-1

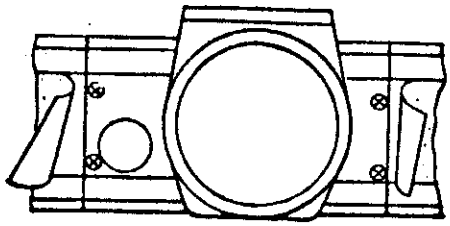
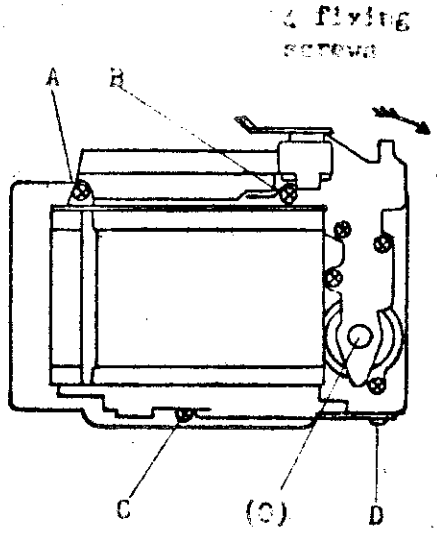
(1) Exclusive Tools for the TOPCON IC-1

Tool No. & Name	Drawing	Use
80A 1508-T Two prong driver		Detachment of the nut 80A 1508-1 in the re-winding assembly.
80A 3013-T Adjustment driver		Adjustment of the shut-ter release point.
(2) General TOPCON Repair Tools		
68A 2035-T Clamp wrench		Detachment of the wind-ing lever cover plate.
68A 30130-T Synchro wrench		Detachment of the syn-chro switch.
50A 3038-T Locating gauge of the diaphragm actuaring ring		Adjustment in position-ing of the E.E. mecha-nism. Same as for 50A & 54A
50A 4012-T Plate wrench		Detachment of the front lens element holding ring. Same as for 50A & 54A
50A 4015-T Plate wrench		Detachment of the rear lens element holding ring. Same as for 50A & 54A

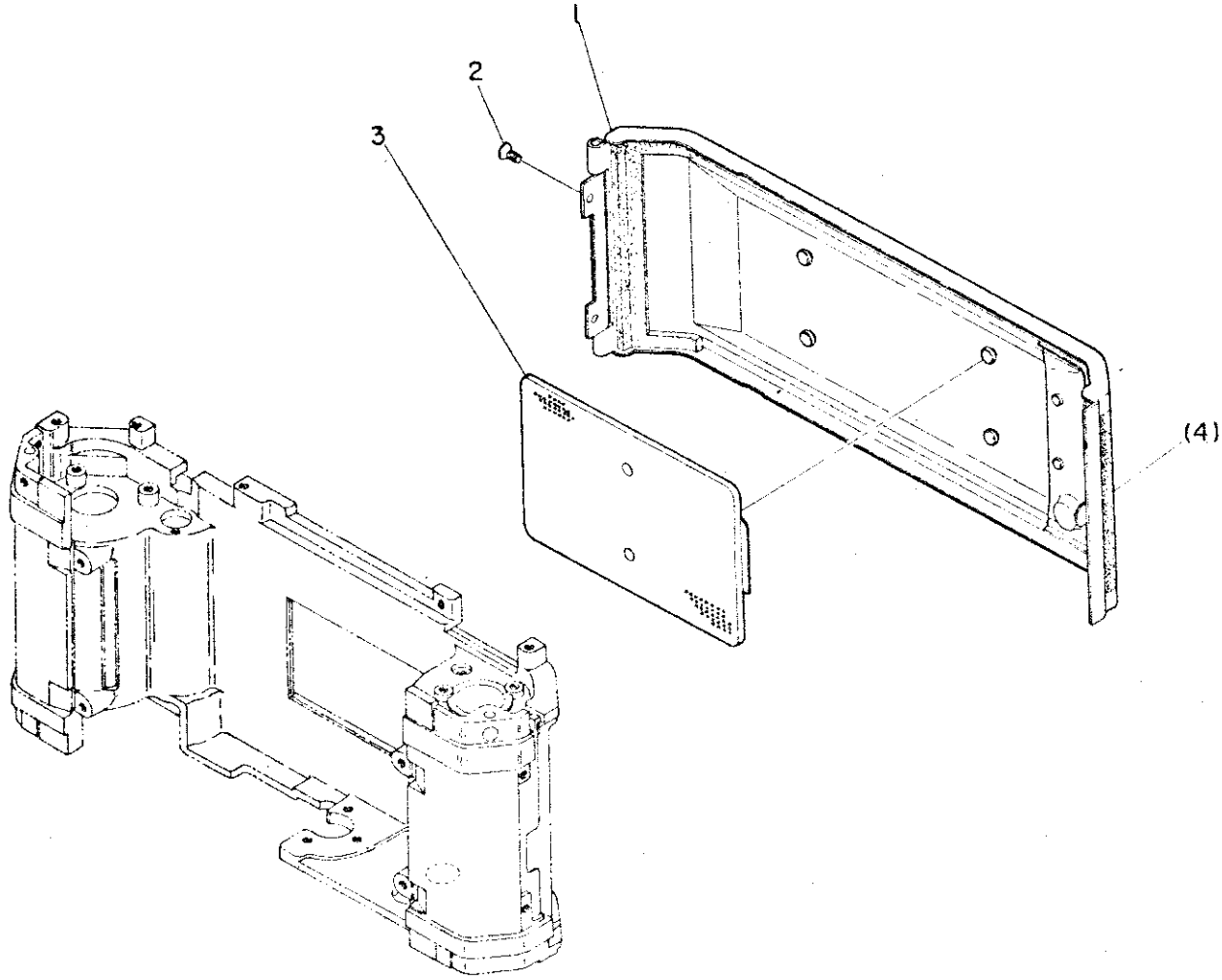
Tool No. & Name	Drawing	Use
AA 0101 Coin driver		Detachment of the battery compartment. Same as for 50A & 54A
AA 0501 Rubber wrench		Detachment of the lens decorative ring. Common for all lenses with 49mm filter mount.
AB 0301 Block gauge for body height		Adjustment of the mechanical flange-focal distance. Common for all UNI bayonet mounts.
AB 0401 Block gauge for body height		Adjustment of the mechanical flange-focal distance. Common for all UNI bayonet mounts.
AC 0101 Block gauge for body height		Adjustment of the mechanical flange-focal distance. Common for all 35mm single lens reflex cameras.

SKETCH	DISASSEMBLING PROCEDURES
	(1) Disassembling the Top Cover 1. Take off the winding lever cover-plate, with the special clamp wrench 68A 2035-T. (See Fig.1) 2. Detach the winding lever assembly, by unscrewing fixing screw 50A 2046-1. 3. Detach the rewinding knob 80A 1510, by revolving it in the counter-clockwise direction while holding the film cartridge shaft firmly to prevent rotation. (See Fig.2) 4. Detach the nut 80A 1508-1 below the rewinding knob, with the two prong driver (80A 1508-T). (See Fig.2) 5. Detach the top cover 80A 10020, by unscrewing two attachment screws. NOTE: Do not lose the shutter release button 80A 1004, as it is not attached to either body or top cover.
	
	(2) Disassembling the Base Plate 1. Unscrew three attachment screws holding the base plate 80A 1006 and detach it. (See Fig.3) NOTE: The rewind button 80A 2055 will also become free and, therefore should be retained.

SKETCH	DISASSEMBLING PROCEDURES
	(3) Dismantling the Shutter Front Plate Unit 1. Detach the printed circuit board 80A 5500, by * Disconnecting the soldering of the lead wires at 14 points, and (See Fig.4) * Unscrewing the fixing screw.
	2. Detach the meter system printed circuit board, by * Disconnecting the soldering of one of the two joints, and * Unscrewing the fixing screw. (See Fig.5)
	3. Detach the pentaprism sub-assembly, by * Unscrewing two fixing screws. * The Cds cell may be left attached.
	4. Detach the focusing screen sub-assembly, by * Unscrewing four fixing screws. * Do not bend the meter needle when taking out the sub-assembly. (See Fig.6)
	5. Detach the winding mechanism wire 80A 2073-3, by * Slipping it off the pulley on A and * Taking the end out of the groove at B. (See Fig.7)

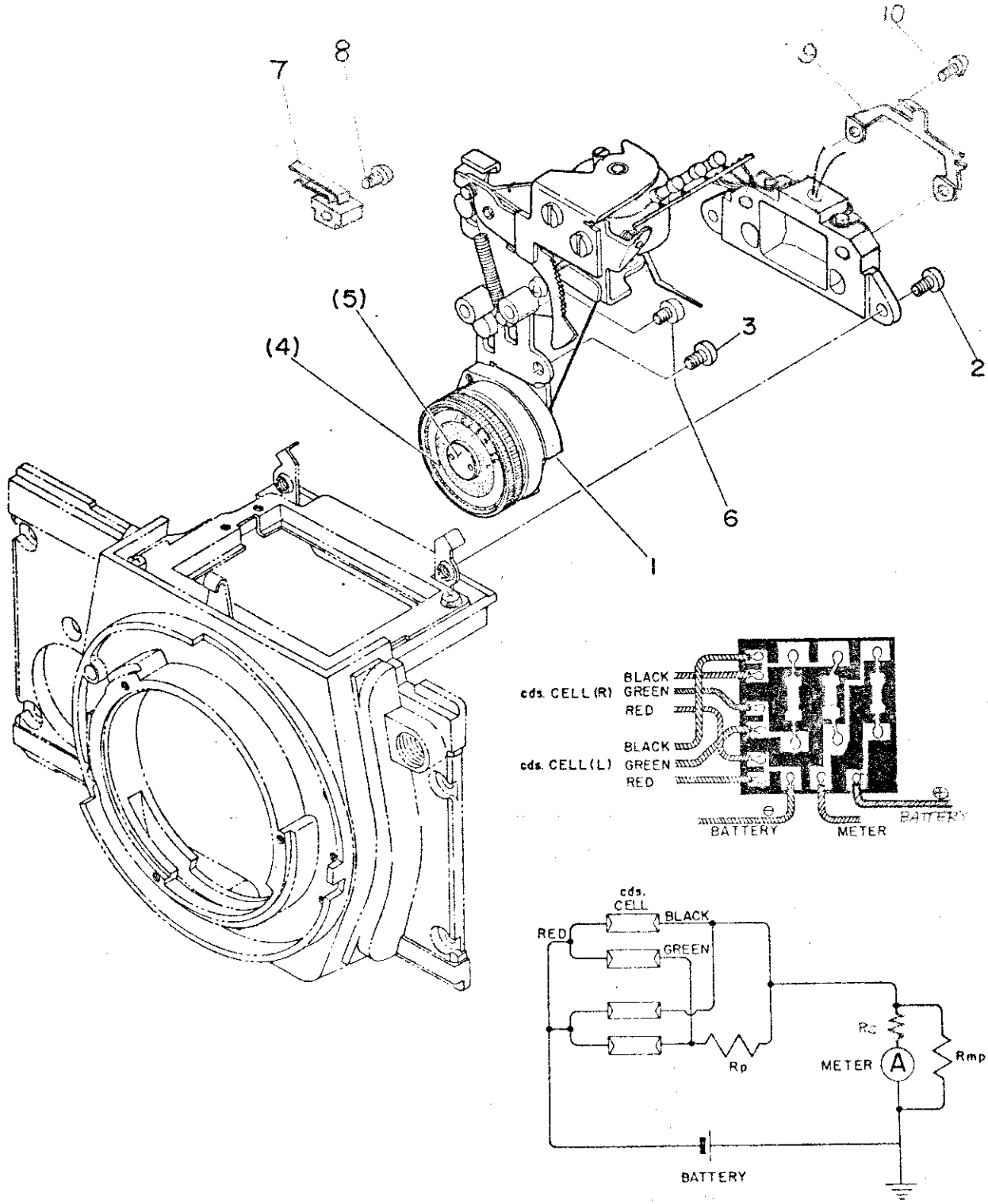
SKETCH	DISASSEMBLING PROCEDURES
	6. Strip the leather covering off (just enough to exposure four attachment screws). (See Fig.8) 7. Unscrew the four attachment screws.
	(4) Detaching the Shutter Assembly 1. Disconnect the (blue-brown) synchro-cord to X-synch. * The blue lead wire should be disconnected by its soldering at the synchro terminal. 2. Unscrew four fixing screws (A, B, C and D). (See Fig.9) * Screw B is hidden by the meter unit and, therefore, it will be necessary to unscrew four fixing screws of the meter unit, in order to shift the unit in the arrow-indicated direction, around pivot point (O), for detachment. NOTE: 1. The meter unit should be rotated as little as possible as the meter needle will hit the diecast body when the unit is rotated too much. 2. Take a good lock at how the wires of the shutter assembly are bundled, as they must be reassembled in the same manner.

10. Back cover



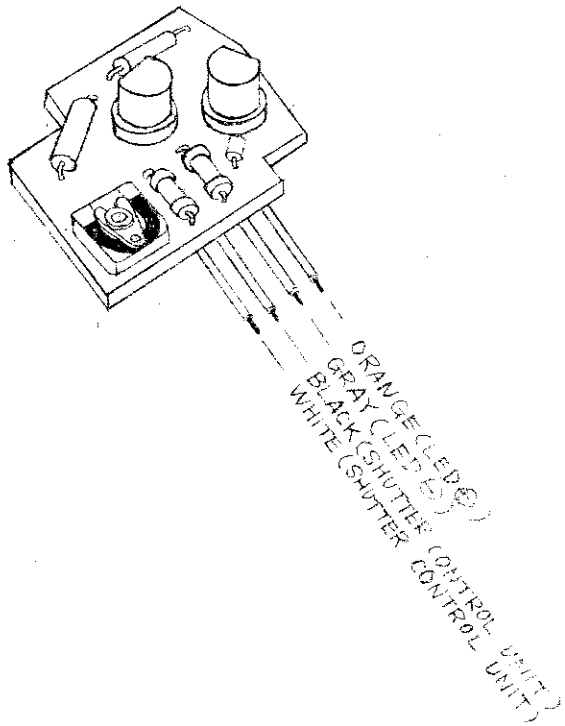
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 70000	Exposure meter ass'y	1		
2	CR1.7x6S Ni	Screw	2		
3	CR1.4x3.5S Ni	Screw	1		
(4)	81A 7044	F number scale	1		
(5)	80A 7054	Screw	1		
6	CRs1.7x3S Ni	Screw	2		
7	81A 8050-1	Checker switch	1		
8	CR1.4x5S	Screw	1		
9	81A 1025-2	Spring	1		
10	CR1.7x3S	Screw	2		

11. Meter system



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 8000	Battery checker circuit	1		

12. Battery checker circuit



Parts List (Class Parts)

Parts No.	Parts Name	Page	No.	Remarks
68A G8	Screen	13	7	
68A G9	Penta prism	13	12	

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
81A 10020	Top cover ass'y	1	1	
80A 1004-3	Shutter botton	1	10	
80A 1005	Counter window	1	(3)	
80AE1006	Bottom cover	1	23	
80A 1008-2	Tripod socket	1	20	
80A 10090	Eyepiece ass'y	1	(9)	
80A 1011-1	Lock plate	1	15	
80A 1012-1	Pin	1	11	
80A 1013	Cover	1	16	
81A 1014	Leather (left)	1	18	
81A 1015	Leather (right)	1	19	
81A 1016	Accessory shore base	1	(4)	
80A 1017	Moltplene	1	14	
80A 1018-1	Plate	1	25	
80A 1019-1	Cloth	1	(27)	
80A 1021-2	Moltplene	1	(28)	
80A 1022-2	Moltplene	1	(29)	
81A 1501	Rewinding base	3	4	
80A 1502-2	Rewinding shaft	3	8	
81A 15030	Battery case	3	9	
81A 15050	Battery cap ass'y	3	12	
80A 1507-3	Spring	3	6	
81A 1508-2	Nut	3	2	
81A 1509-1	Spring	3	3	
81A 15120	Rewinding knob ass'y	3	1	
80A 20050	Clutch gear ass'y	5	10	
80A 20100	Base and gear ass'y	5	11	
80A 20210	Winding shaft ass'y	5	9	
80A 2018-1	Spring	5	15	
80A 2029-4	Clutch	5	6	
80A 2031-2	Screw	5	16	
80A 2032-3	Ring	5	3	
80A 2033-2	Winding lever cap	5	1	
80A 20420	Base ass'y	5	23	
80A 20780	Crank plate ass'y	5	24	
80A 2045-5	Pulley	5	26	

PS 81A 1026 1-30 , 81A 1028 11-68 , 81A 1028-2 23-9

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Rematks
80A 2046-3	Screw	5	27	
80A 2047-4	Lever	5	17	
80A 20520	Adjusting plate ass'y	5	25	
80A 2053-1	Spring	5	18	
80A 2055	Rewinding button	5	35	
80A 2071-3	Screw	5	19	
80A 2073-3	Wire	5	28	
80A 2076	Spring	5	7	
80A 2079-1	Stopper	5	21	
80A 3001-5	Front base	9	16	
80A 3002-1	Housing	9	6	
80A 3003	Screw	11	60	
81A 30040	Speed ring ass'y	9	13	
81A 30050	Diaphragm ring ass'y	9	7	
81A 30080	Mount ass'y	9	1	
81A 3009-3	Speed control resistance	9	22	
80A 3011-2	Screw	11	56	
80A 30130	Release lever ass'y	11	55	
80A 31540	Click spring plate ass'y	9	24	
80A 3018	Cover	9	15	
80A 30190	Bearing and plate ass'y	11	42	
80AE30210	Front cover ass'y	9	14	
80AE3023	Cover	9	18	
80A 3024-3	Spring	11	44	
80A 30260	Coupling lever ass'y	9	35	
80A 30280	Adjust lever ass'y	9	34	
80A 30290	Connecting lever ass'y	11	53	
80A 3031-1	Lever	11	51	
80A 3033-2	Spring	11	52	
80A 3034-2	Spring	11	50	
80A 3035	Ring	11	54	
81A 3038	Diaphragm actuating ring	9	5	
80A 30390	Cam ring ass'y	9	9	
80A 3042-1	Partial gear	11	47	
80A 30440	Coupling shaft ass'y	9	33	
80AE30490	Film speed ring ass'y	9	12	
80A 30520	Film speed lever ass'y	9	10	

R.S. 80A 3069 11-65 , 80A 3158-1 11-64 , 80A 3161 11-63
80A 3166 11-66 , 81A 3168 11-67

Parts List (Original Parts)

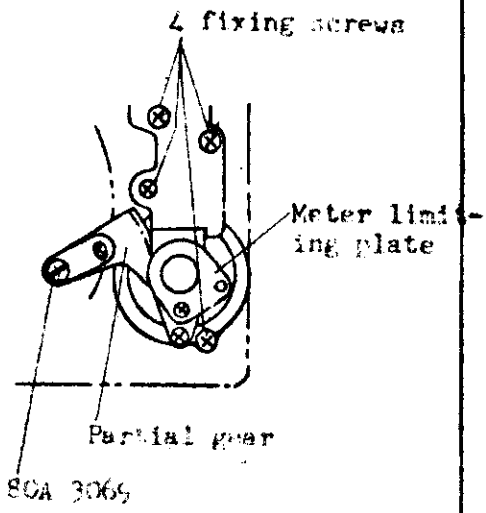
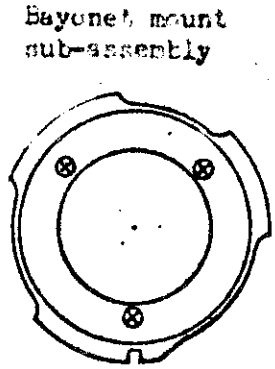
Parts No.	Parts Name	Page	No.	Remarks
80A 3055-5	Spring	9	(11)	
80A 30580	Spring ass'y.	9	3	
80A 3059-2	Ring	11	49	
80A 3063-1	Spring	9	8	
80A 30660	Starting lever ass'y	11	41	
80A 3068-3	Spring	11	39	
80A 3069	Screw	11	46	
80A 3072	Lever	11	45	
80A 3077	Switch lever	9	31	
80A 3078	Screw	9	32	
80A 3131-5	Finder flame	13	1	
80A 3132-3	Penta holder	13	8	
81A 31340	Exposure meter scale ass'y	13	10	
80A 3135-3	Spring	13	4	
80A 3136-2	Plate	13	5	
80A 31410	Mirror holding ring ass'y	9	37	
80A 31420	Set ring	11	38	
80A 3147-1	Adjust plate	11	61	
80A 3151-5	Click pin	9	27	
80A 3152	Moltplene	11	57	
80A 3153-3	Spring	9	26	
80A 3155	Cloth	11	62	
81A 37600	Main switch	9	28	
81A 37700	Safe switch	9	29	
80A 40010	Mirror box ass'y	15	1	
80A 40020	Upper base plate ass'y	15	4	
32A 4044-1	Mirror shaft	15	9	
80A 40060	Lower base plate ass'y	15	15	
80A 4019-3	Spring	15	13	
80A 40330	Charge gear ass'y	15	18	
80A 4035-1	Spring	15	6	
80A 4042-3	Lever	15	24	
80A 40460	Frame ass'y	15	7	
80A 4047	Ring	15	11	
80A 4048	Ring	15	12	
80A 4065	Screw	15	20	
80A 4066-3	Pulley	15	19	
80A 4067-1	Pulley	15	21	

P.S. 80A 4114 15-36 ,

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
80A 4068-3	Screw	15	22	
80A 4069	Spring	15	23	
80A 4071-3	Moltplene	15	30	
80A 4072-3	Moltplene	15	31	
80A 4073-3	Moltplene	15	32	
80A 4074-3	Moltplene	15	33	
80A 40780	Plate ass'y	15	2	
80A 4081-2	Spring	15	17	
80A 40900	Mirror plate ass'y	15	10	
80A 4093-1	Paper	15	26	
80A 4094-4	Paper	15	29	
80A 4096-1	Spring	15	27	
80A 4104	Spring	15	28	
80A 4107	Spring	15	14	
80A 5009-1	Pulley	17	35	
80A 51300	1st curtain ass'y	17	3	
80A 51400	2nd curtain ass'y	17	4	
80A 5019-1	Pulley	17	36	
80A 50220	2nd main shaft ass'y	17	6	
80A 5027-3	Lever	17	15	
80A 51280	First snaped lever ass'y	17	26	
80A 5031-5	2nd snaped lever	17	18	
80A 50320	Base plate ass'y	17	1	
80A 5033	Amateur lever ass'y	17	17	
80A 50380	1st internal gear ass'y	17	28	
80A 50390	2nd internal gear ass'y	17	29	
80A 50410	Set gear ass'y	17	30	
80A 5048	Screw	17	20	
80A 5053-1	Screw	17	40	
80A 5054	Screw	17	27	
80A 5055-1	Pawl	17	9	
80A 5056	Spring	17	19	
80A 5057-2	Spring	17	25	
80A 5058-1	Spring	17	37	
80A 5061	Spring	17	24	
80A 5062-1	Spring	17	21	
80A 5075-1	Ring	17	12	
81A 51010	Electromagnet ass'y	17	11	

P.S. 80A 5126 17-38 , 80A 5127 17-23

SKETCH	DISASSEMBLING PROCEDURES
	(5) Detaching the Meter Unit (80A 70000) (See Fig.10) 1. Attach the meter limiting plate. * The plate is attached to prevent complete dismantling of the unit upon detachment of the partial gear. (The meter limiting plate is always fixed to new meter units and, therefore, these plates should be used.) 2. Detach the partial gear 80A 3042-1, by * Unscrewing 80A 3069. 3. Unscrew the four fixing screws.
	(6) Detaching the Bayonet Mount Sub-Assembly (80A 30080) 1. Detach three fixing screws; for taking off the bayonet mount sub-assebbly. (See Fig.11) NOTE: The shutter cap, diaphragm actuating ring 80A 3038-2 and film speed ring assembly 80A 30490 will also come off at the same time.
	(7) Detaching the Speed Ring Assembly (80A 30040) 1. Detach the housing 80A 3002, by unscrewing 3 fixing screws. 2. It will be possible to detach the cam ring assembly 80A 30390 and the speed ring assembly.

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
81A 5106	B-switch	11	58	
81A 5107-2	X-switch	17	31	
81A 51100	Trigger switch ass'y	17	33	
80A 51210	1st main shaft ass'y	17	5	
81A 5500	Print plate	19	1	
81A 60100	Back cover ass'y	21	1	
81A 6015-1	Leather	21	(4)	
81A 70000	Exposure meter ass'y	23	1	
81A 7044	F number scall	23	(4)	
80A 7054	Screw	23	(5)	
32A 1005-4	Shoulder strap lug	1	12	
32A 5082-3	Ratchet wheel	17	8	
42A 1003-1	Penta cap	13	13	
50A 2046-2	Screw	5	2	
50A 3064-1	Screw	9	4	
50A 3099	Washer	9	21	
50A 5059	Spring	17	14	
80A 5072-2	Screw	17	16	
54A 20240	Sprocket shaft ass'y	5	31	
54A 2067	Washer	5	34	
80A 3165	Screw	11	40	
56A 2103	Spring washer	5	5	
68A 1014-1	Accesory shore	1	(5)	
68A 1015-1	Shore spring	1	(8)	
68A 1041	Strap lug ring	1	13	
68A 2018-2	Sprocket	5	33	
80A 20220	Spool shaft ass'y	5	14	
68A 2041-1	Screw	5	8	
80A 25000	Film counter ass'y	7	1	
68A 30130	Frash socket ass'y	9	20	
68A 5076-2	Belt	13	14	
68A 60080	Pressure plate ass'y	21	3	
68AJ 2004	Spool	5	20	
80AE 20360	Winding lever ass'y	5	4	
	Battery	3	(11)	
32A 1075-5	Screw	17	41	
81A 8000	Battery checker circuit	25	1	

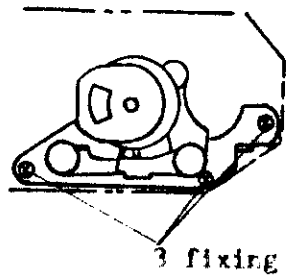
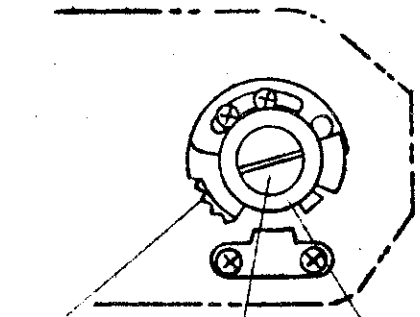
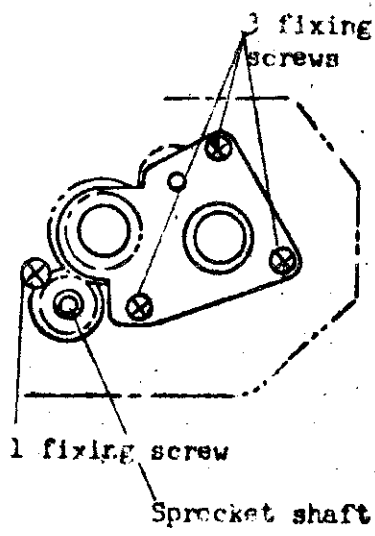
PS 81A 8050-1 23-7, 81A 1025-2 23-9.

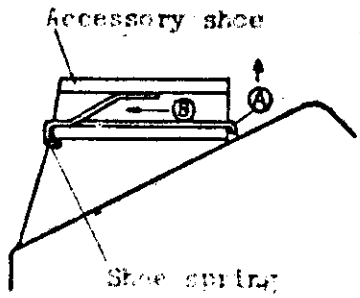
Parts List (Screw)

Parts No.	Parts Name	Page	No.	Remarks
CQ1.7x3S Ni	Screw	5	30	
CQ1.7x3.5S BZn	Screw	13	2	
CQs1.4x2.5S BZn	Screw	15	5	
CQs1.7x2.2S Ni	Screw	5	32	
CQs1.7x2.5S BZn	Screw	21	2	
CQs1.7x2.5S Cr	Screw	1	17	
CQs1.7x3.5S Cr	Screw	1,9	22,19	
CQs1.7x4S Ni	Screw	5	12	
CQs1.7x6S Ni	Screw	1	(6)	
CQs1.7x9 S Ni	Screw	1	(7)	
CR1.4x1.6S BZn	Screw	13	11	
CR1.4x1.8S Ni	Screw	11,17	48,22	
CR1.4x2S Ni	Screw	9	25	
CR1.7x3S BZn	Screw	13	9	
CR1.4x3.5S BZn	Screw	15	3	
CR1.4x3.5S Ni	Screw	23	3	
CR1.4x4S Ni	Screw	17	13	
CR1.4x5S Ni	Screw	9,23	30,8	
CR1.7x1.5S Ni	Screw	3	7	
CR1.7x2S Ni	Screw	17	10,39	
CR1.7x2.5S Cr	Screw	1	2	
CR1.7x2.5S Ni	Screw	9,15,17	23,16,2	
CR1.7x3S Ni	Screw	23,11,17	10,43,32	
CR1.7x3.5S BZn	Screw	13	3	
CR1.7x3.5S Ni	Screw	3,5	5,13	
CR1.7x4S Ni	Screw	5,11,7,17	22,59,2,34	
CR1.7x6S Ni	Screw	3,23	10,2	
CR2x4S Ni	Screw	9,15	17,35	
CRs1.4x1.6S Ni	Screw	9,15	36,8	
CRs1.4x2S Ni	Screw	13	6	
CRs1.7x2S Ni	Screw	9	2	
CRs1.7x2.5S Ni	Screw	1	21	
CRs1.7x3S Ni	Screw	5,15,23	29,25,6	
CRs1.7x6S Ni	Screw	1	24	

Parts List (Washer)

Parts No.	Parts Name	Page	No.	Remarks
70W 42002SUS	Washer	15	34	
E-20	E.Ring	17	7	

SKETCH	DISASSEMBLING PROCEDURES
  	(8) Disassembling the Exposure Counter (80A 25000) 1. Unscrew the 3 fixing screws and detach the exposure counter. (See Fig.12) (9) Detaching the Winding Shaft (See Fig.13) 1. Detach the fixing screw 80A 2046-2, which has a left hand thread. 2. Detach the pulley 80A 2045-5 and crank plate assembly 80A 20440. 3. Pull up the winding shaft assembly 80A 20140 from the top cover side and detach. (10) Detaching the Spool (68AJ 2004) 1. Detach the base and gear assembly 80A 20100, by unscrewing three fixing screws. (See Fig.14) 2. Pull the spool shaft assembly 68A 20220 upwards and detach. 3. Pull the spool out towards the back cover side. (11) Detaching the Sprocket (68A 2018-2) 1. Unscrew the single fixing screw. (See Fig.14) 2. Pull the sprocket shaft assembly 54A 20240 upwards and detach. 3. Pull the sprocket out towards the back cover side.

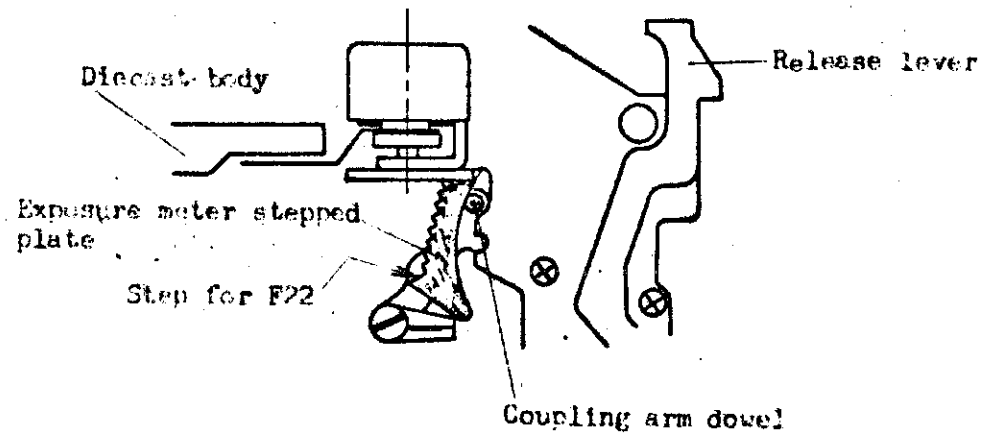
SKETCH	DISASSEMBLING PROCEDURES
	(12) Detaching the Accessory Shoe 1. Pull up the forward end, or A section, of the accessory shoe spring 68A 1015-1, and push it out towards the back cover side, as illustrated. (See Fig.15) 2. Unscrew four fixing screws and detach the accessory shoe 68A 1014-1 from the accessory shoe base 80A 1016.

3. POINTERS IN ASSEMBLING

(1) Shutter

The focal plane shutter assembly of the TOPCON IC-1 should, in principle, be exchanged as an unit, because assembling and adjusting the unit requires special training and knowledge. In other words, expect for a few minor parts which may be exchanged, the repair of the focal plane shutter assembly should be left to the Factory.

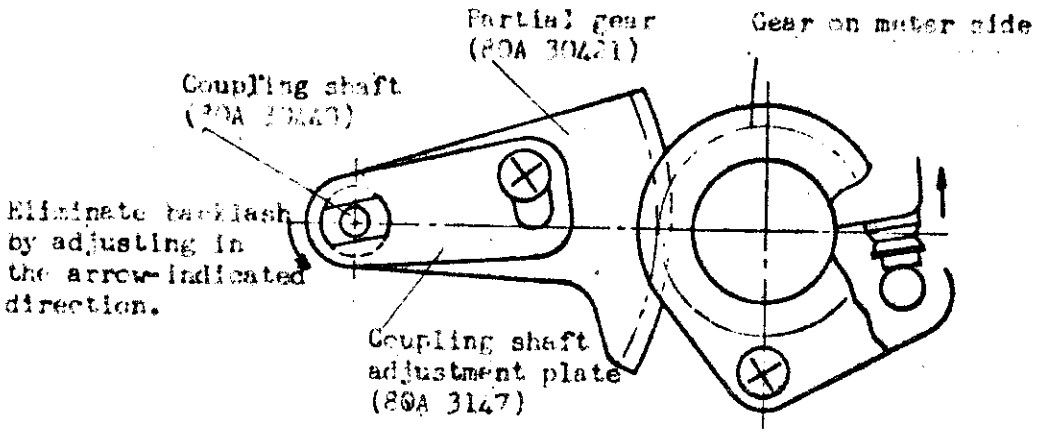
(2) Attachment of the Exposure Meter



1. Set the coupling arm dowel against the opposite (plain) side of the stepped plate, as illustrated, and attach the exposure meter assembly (80A 70000).
2. The dowel of the coupling arm should move along the cam surface of the stepped plate, when the release lever is depressed, with the meter needle placed on the F22 step.

(3) Attachment of the Partial Gear and Coupling Shaft

1. Set the shutter speed ring to 1/60, the film speed to ASA 100 and the lens speed compensator dial to F4.

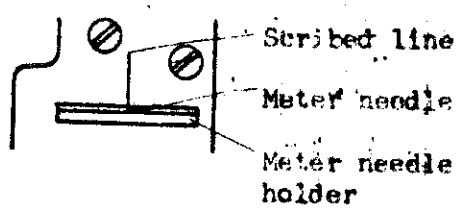


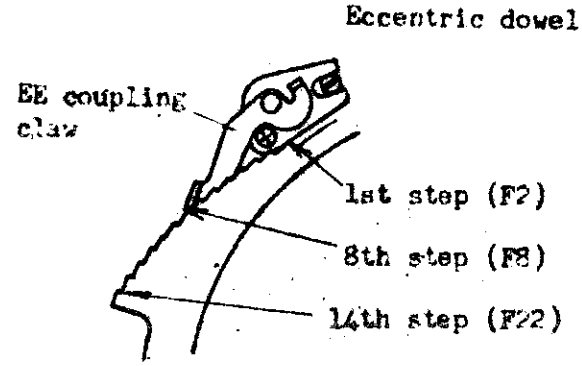
* Should be in contact with the pin of the meter limiting plate at 1/60 sec.
* Should move in the arrow-indicated direction when the shutter speed ring is moved from 1/60 to 1/125 sec.

2. Eliminate backlash of the coupling shaft in the arrow-indicated direction and attach the partial gear so that the exposure meter's gear meshes approximately in the central section of the partial gear.
3. Make fine adjustment with the coupling shaft adjustment plate so that the pulley contacts the pin of the meter limiting plate.

(4) Adjustment of EE Coupling

1. Align the meter needle to the soribed line, as illustrated, or, in other words, to the 8th step.
Make adjustment with the eccentric dowel so that the EE coupling claw is coincided to the 8th step of the diaphragm ring (80A 3005-4).



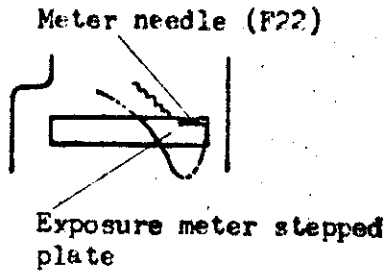


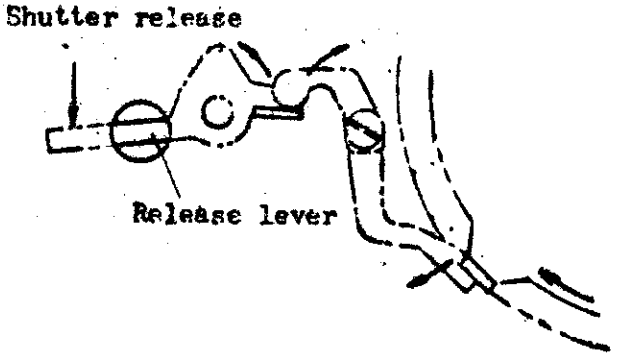
Checking

1. Attach the lens mount and lens and stop down to F2, F8 and F22 (or check against the diameter of the manually stopped-down diaphragm).

(5) Adjustment of the Shutter Release

1. The shutter should be released after the stepped plate has moved up to the F22 step, upon depressing the shutter release button. (The standard allowance after shutter release is 0.3mm.)

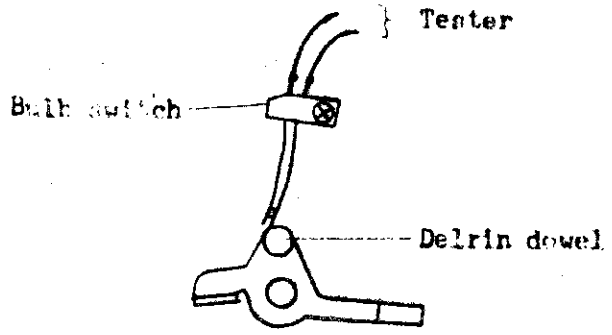




Adjust the shutter release position by inserting a screwdriver through the opening in the diecast front plate and bending the release lever.

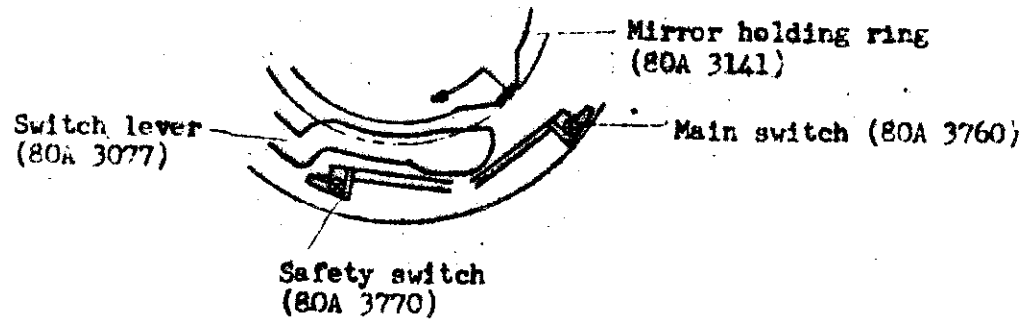
(6) Adjustment of Bulb Setting

1. The bulb contact should be switched off within a range of 0.5 to 1.5mm, as measured at the tip of the release lever, prior to shutter release. (Check with a tester)



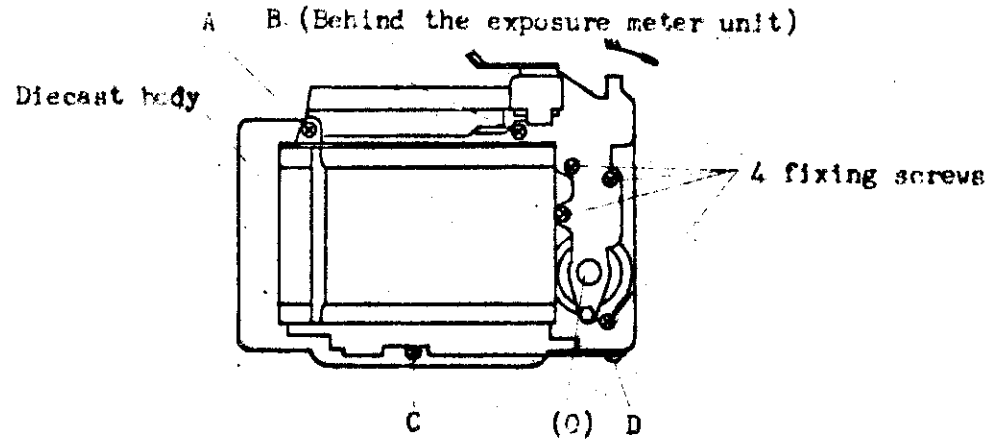
* Adjust by bending the contact plate.
* Must be switched-in before pressing the shutter release.

(7) Attachment and Adjustment of Safety and Main Switches



1. The two switches should be pressed by the switch lever, when the mirror holding ring is rotated in the arrow-indicated direction, and switched in.
2. When the mirror holding ring has returned, as illustrated, the switches should not be in contact(should be off)
3. Adjustments are made by bending the contact plates.

(8) Attachment of the Shutter Assembly

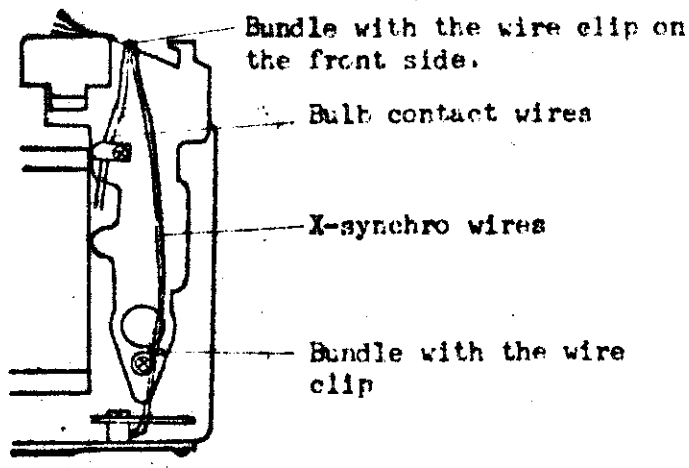


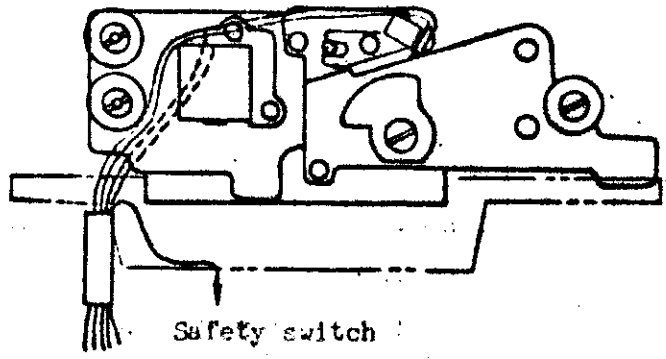
1. The shutter assembly should be inserted in the front plate assembly, as illustrated.
2. The shutter assembly is attached with four fixing screws. Since one (B) of the screws is located behind the attached exposure meter unit, this screw must be attached after first detaching the exposure meter unit, by unscrewing its four fixing screws and then rotating in the arrow-indicated direction, with "O" as the pivot point.

NOTE

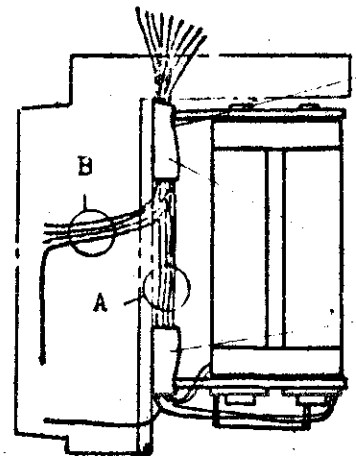
The exposure meter unit should be rotated only as much as required for the purpose of screwing in "B" screw because the meter needle witll hit the diecast body when the unit is rotated too much.

3. Wiring





5 wires from the trigger switch, solenoid and safety switch should be bundled with the white vinyl tube.



In a addition to the previous 5 wires, the 4 wires from the main switch and speed control resistance (80A 3009-2), or 9 wires, should be passed through the tube.
The wires consolidated in the tubes should be pressed in between the shutter base plates and the diecast body.

5 Wires in A section are from -

Trigger switch, green, 1
" " black, 1
Solenoid, yellow, 1
" black, 1

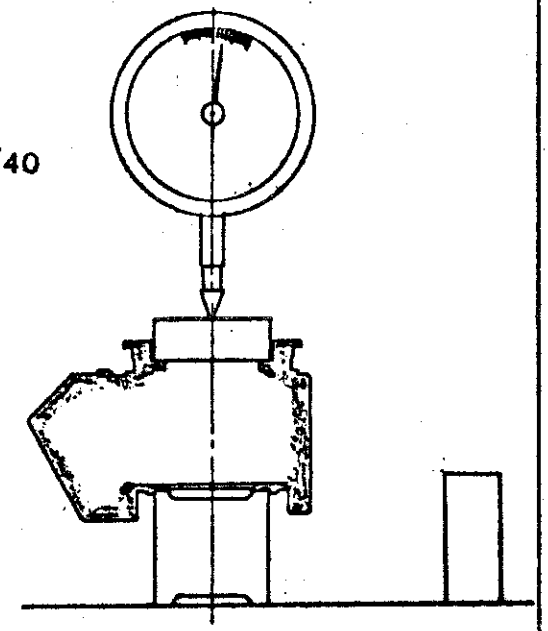
4 Wires in B section are from -

Speed control resistance, green, 1
" " " pink, 1
" " " red, 1
Main switch, red, 1

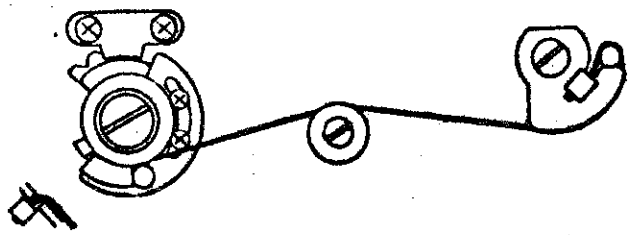
(9) Adjustment of the Mechanical Frange-Focal Distance

1. Assemble the body unit to the front plate assembly and use the block gauges, as illustrated, to measure the mechanical frange-focal distance.
2. Adjust the mechanical flange-focal distance to the following standards.

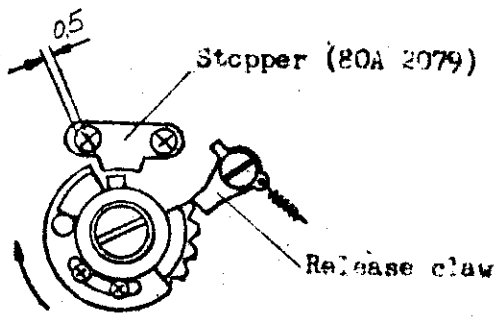
Height : 49mm ± 0.02
Parallelism : Better than 0.04/40
Block gauge AB 0401
Block gauge AC 0101
Block gauge AB 0301 (49.0mm)



(10) Attachment and Adjustment of the Winding Wire and Stopper



Twist in the clockwise direction once when inserting the wire into the groove.

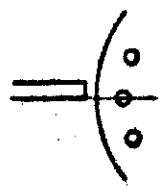


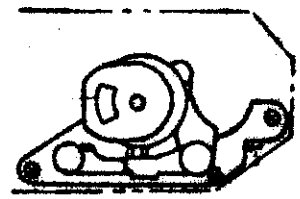
Winding completed

1. Clearance with the stopper should be 0.5mm when the release claw disengages upon winding.
2. Upon disengagement of the release claw, with winding action, the shutter should be cocked and the mirror mechanism should be charged.
   1) Shutter charge - the curtain should return 1 - 2mm after being charged.
   2) Mirror charge - catching of the return lever and signal claw should be more than 0.5mm.

(11) Attachment of the Exposure Counter (80A 25000)

1. The leading edge of the index should not extended beyond the center of the dot when the index and scale plate are aligned.
2. There should be sufficient play for the exposure counter to advance by 1.5 scale graduations, when advanced. Adjustment in the feed should be made by shifting the complete exposure counter assembly.





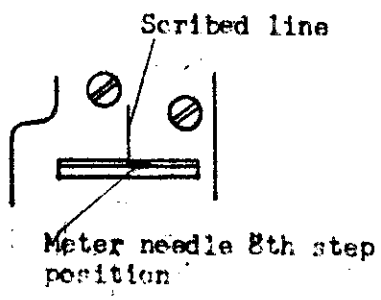
Feed become smaller ⟵ ⟶ Feed become larger

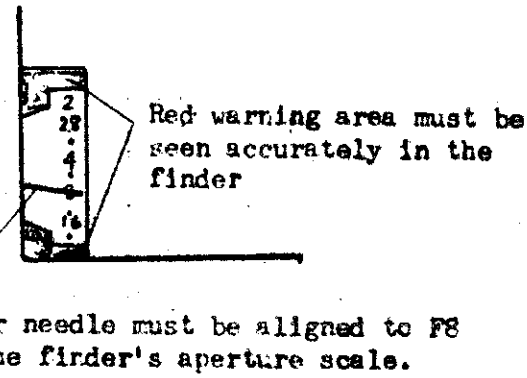
Exposure counter unit

(12) Attachment of the Pentaprism

(Alignment of the Finder Meter Needle)

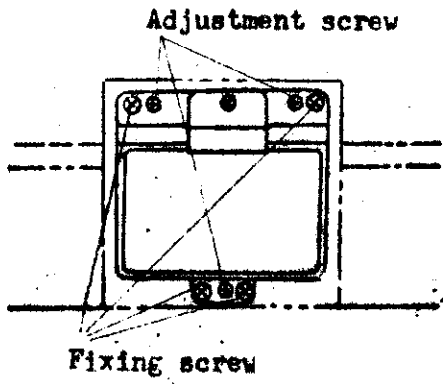
1. Aligned the stepped plate meter needle to the 8th step (scribed line) and the center of the finder meter needle to 8 on the finder's aperture scale.

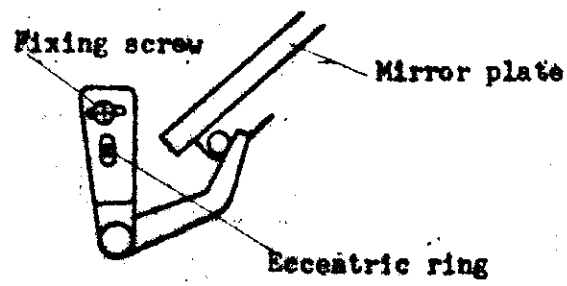




(13) Focusing Adjustment

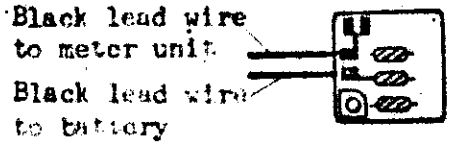
1. For adjustment in the finder plane, in excess of ±0.1mm, adjust the focusing screen assembly up or down, with the three adjustment screws, after first loosening the fixing screws.
   Upon completing adjustment, tighten the fixing screw and apply lacquer.
2. For fine adjustment of ± 0.05mm to ± 0.1mm, adjust the angle of the mirror plate.
   After winding lever action, loosen the fixing screw and revolve the eccentric ring to change the angle of the mirror.

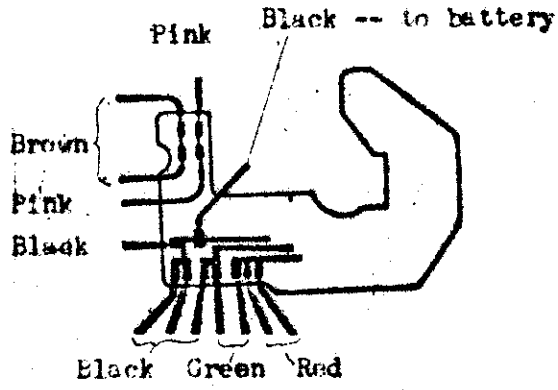




Standard: Focus of finder ±0.03mm
With standard lens ±0.05mm

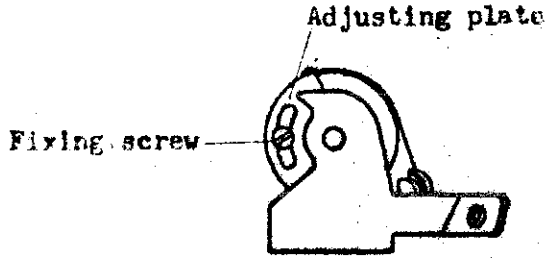
(14) Wiring





(15) Exposure Adjustment

1. **Revolve the exposure meter drum so that the meter needle is aligned to the F8 setting in the finder or the stepped plate is aligned to the scribed line for the 8th step, at LV11 (F2, ASA 100 and 1/30 sec.)**



Drum revolution: Loosen the fixing screw and move the adjusting plate.

2. **Check at LV15 and LV7, too.**

   The combinations of aperture and shutter speeds for checking are as follows:-

	F/number	Shutter speed	ASA	Finder	Setting Standard
LV 15	4	1/500	100	8	±1 step
LV 11	2	1/30	100	8	±0.3 step
LV 7	2	1/2	100	8	±1 step

4. TROUBLE-SHOOTING (Troubles, their origins and corrective measures)

(1) Shutter

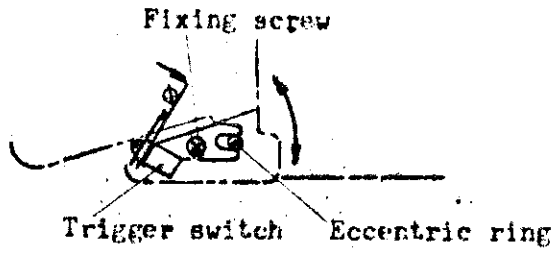
1. Improper Shutter Speed.

1) Exposure is not uniform.

a. Correct within the 13mm ± 1ms adjustment range of the curtain speed.

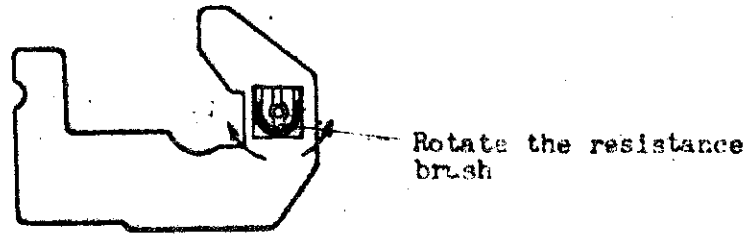
2) Shutter speeds are too fast/too slow.

a. Correct trigger switch (for high shutter speeds)



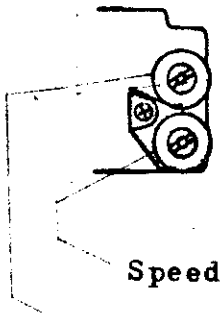
Adjustment : Rotate trigger switch in A direction to speed up 1/500 sec.
Rotate trigger switch in B direction to slow down 1/500 sec.

b. Adjustment of the resistance value of VTH.



in A direction to speed up the shutter speeds, and in B direction to slow down the shutter speeds.

c. Adjustment of curtain run speed.



Second curtain ratchet wheel
First curtain ratchet wheel
Clockwise revolution will slow down curtain run speed.
Counter-clockwise revolution will speed up curtain run speed.

Speeding up first curtain --- will extend shutter speed(lengthen exposure)

Speeding up second curtain --- will speed up shutter speed(shorten exposure)

2. Shutter speed is too fast

1) Shutter speed is too fast at all shutter speeds.

a. Trigger switch is open
Faulty adjustment of trigger switch. (See page 26 for adjustments.

b. Faulty adjustment in positioning and clearance of of the solenoid.

c. Faulty catching of the second curtain claw.

d. Short-circuiting of the trigger swtich with the body.

e. Main switch cannot be switched ON.

f. Insufficient battery power.

2) Shutter release is too fast at high speeds only.

a. Adjustment curtain run speed.

b. Faulty adjustment of the trigger switch.

3) Shutter release is too fast at Bulb setting.

a. Faulty adjustment of the bulb switch.

b. Short-circuiting of the contact plate.

3. Faulty time-lag.

a. Check time-lag of 1/60 second setting.

b. Faulty adjustment of X-synch.
Adjust by bending the X-synch contact plate.

4. Electronic flash fires accidentally

1) Fires when plug is inserted into the flash socket.

a. Faulty socket
b. Short-circuited

2) Fires with winding action.

a. Faulty safety switch
b. Short-circuiting of parts(charge plate) near the set gear assembly.

(2) Winding Action

1. Winding is not possible

1) Stops before negative frame is fully uncovered, although reflex mirror is swung up and first and second curtains run across; in other words, the signal lever has not slipped off.

a. Improper return action.
* Insufficient returning power of the return lever.
* Diaphragm coupling lever on lens is too heavy (should be less than 90 g. force).

b. First curtain is catching on the first curtain bound prevention lever and second curtain is also prevented from moving.

c. Second curtain bound prevention lever is too heavy and does not release the signal lever.

d. Action of the diaphragm actuating ring is too heavy (must be less than 3g.).

e. Double exposure prevention does not work.

* Winding before completing exposure at slow shutter slow speeds will lead to trouble.

2) Shutter remains open with swing-up of reflex mirror.

a. Faulty speed control resistance.
b. Faulty contact of the resistance brush.
c. Trigger switch remains on(does not switch OFF).

3) Reflex mirror only swings up; curtain run does not take place.

a. Mirror holding ring cannot release the first snapped lever assembly.

* Insufficient force in the mirror holding ring (action is heavy).

2. Double exposure prevention is not working

1) Faulty lock lever action. (80A 2051)

a. Faulty action

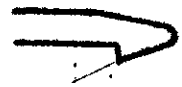
b. Tip of claw is smashed.

Smashed

2) Double exposure preventing lever (80A 4042-1)

a. Faulty action

b. Tip of claw does not work properly(slides).



Slides

3. Insufficient charging with winding action

1) Faulty adjustment of the adjusting plate assembly (80A 20520).

4. Faulty film take-up action

1) Sprocket races without advancing film.

a. Faulty returning action of the rewind button.

* Faulty returning action of the sprocket shaft.

b. Faulty sprocket.

* Sprocket teeth slip.

5. Exposure counter

1) Faulty advancing action.

a. Counter gear is smashed.

b. Index detached (spring is detached).

2) Faulty returning action.

a. Return spring is no longer effective.

(3) Exposure Meter

1. Meter needle movement

1) Meter needle does not move.

a. Check battery voltage.
b. Check for poor contact(soldered connection, etc.)
c. Check for broken wiring and/or short-circuiting in the circuit.
d. Check for faulty action of the meter needle holder .
e. Check for catching of meter needle on metallic dust, dirt, etc.

2) Faulty meter needle movement.

a. Faulty movement due to dirt or shavings inside the meter.
b. Faulty return of the meter holder.
c. Defective exposure meter.

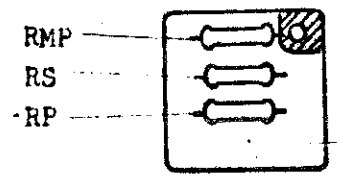
3) Jamming of the meter needle.

a. Insulator and meter needle are dirty.

4) Poor balancing of the meter needle.

a. Exchange meter.

2. Poor Sensitivity



RMP Increase resistance value - Shift meter indication overall in the plus direction.
Decrease resistance value - Shift meter indication overall in the minus direction.

RS Increase resistance value - Shift high and middle brightness ranges in the minus direction.
Decrease resistance value - Shift high and middle brightness ranges in the plus direction.

RP Increase resistance value - Shift middle and low brightness ranges in the minus direction.
Decrease resistance value - Shift middle and low brightness ranges in the plus direction.

3. Defective EE (Electric Eye) Operation

1) Meter needle position is incorrect.

a. Meter needle position at the 8th step is not coincided to the F8 setting of the diaphragm ring.
Due to poor adjustment

2) Shutter release position is incorrect.

a. Shutter is released before the stepped plate reaches F22.

3) Faulty movement of the stepped plate.

4) Exposure measurement and/or shutter speed is not correct.

5) Battery power is insufficient.

6) Lens not stopped down sufficiently.

(4) Focus

1. Mechanical Flange-Focal Distance.

1) Check body height.

2. Finder

1) Adjust focusing screen(for differences of less than 0.1mm, adjustment may be made with the mirror plate).

3. Lens

1) Adjustment of the back focus.

(5) Inspection Standards

1. Shutter

* Exposure time

1 - 1/30 sec. ..... +0.4/-0.3 EV
1/60 sec. ..... +0.4/0 EV
1/125 - 1/500 sec. ..... +0.4/-0.3 EV

* Shutter Standard

Speed	Standards millisecond	Speed	Standards millisecond
1	1320 ~ 812	1/30	41.2 ~ 25.4
1/2	660 ~ 406	1/60	20.6 ~ 15.6
1/4	330 ~ 203	1/125	10.3 ~ 6.35
1/8	165 ~ 101.6	1/250	5.16 ~ 3.17
1/15	82.5 ~ 50.8	1/500	2.58 ~ 1.59

* Non-uniformity of Exposure

± 25 % (standard for center of frame)

* Time-lag (X-synch)

"A" Time-lag between finish of first curtain run and contact of X-synch should be more than 0.5ms.

"B" Time-lag between contact of X-synch and beginning of second curtain should be more than 1.25ms.

2. Exposure Meter

	F/number	Shutter speed	ASA	Finder F/setting	Standard
LV 15	2	1/500	100	8	+1 step
LV 11	2	1/30	100	8	+1 step
LV 7	2	1/2	100	8	+1 step

TROUBLES, CHECKING METHODS AND REPAIRS IN THE ELECTRICAL SYSTEM

1. Mirror Swings Up and Shutter Opens

Check 1 :

First, detach the light green lead wire, from among the lead wires soldered to terminal (2) of the printed circuit (PC) board. Next, set the tester between the disconnected lead wire and terminal (1) of the PC board, with the tester set for "X 100 ohm range".
Finally rotate the shutter speed ring and check whether the tester shows infinity readings for 1/n second settings.

(1) Resistance chips have peeled off, if the tester indicates infinity readings in place of the following readings for these 1/n settings:-
1/500 second : 0.156 K(ohm)
1/60 second : 1.13 K(ohm)
1/1 second : 64.9 K(ohm)
(a) The speed control resistance must be exchanged to correct the above defect.

(2) Poor contact of the resistance brush (occurs most often around 1/500 second setting).
(a) The brush must be re-set to contact the speed control resistance properly.

Check 2 :

If the tester shows infinity readings for all shutter speed settings, when the shutter speed ring is rotated in check 1,
then, -

(1) There is poor contact of the resistance brush.
(a) The brush must also be re-set to contact the speed control resistance properly.

Check 3 :

If the tester reading varies when the shutter speed ring is rotated in check 1, re-solder the disconnected light green lead wire to its former terminal and set the tester between terminals (SL) and (4) of the PC board, with the tester set for "DC 5V range" and with the "+" test lead connected to (SL) and the "-" test lead connected to (4). Finally, check whether the tester indicates a reading of about 2.5V for more than one second with the shutter speed ring set to the 1 second setting,
in which case -

(1) The trigger switch is constantly switched on.
    (a) To correct the above condition, exchange the trigger switch and set the new trigger switch so that it will open only when the reflex mirror swings up.

2. Mirror Swings Up and Shutter Opens Only on 1/1 Second

Check 1 :

Connect a constant voltage source with its "+" lead connected to terminal (1) and "-" lead connected to terminal (4) of the PC board. Set the tester between terminals (6) and (4) of the PC board, with the tester set for "DC 5V range" and the "+" test lead connected to (6) and the "-" test lead connected to (4).
If the tester should show a reading over 1.2V when a constant voltage of 2.6V is applied in this set-up -

(1) The Vth is high.
    (a) Set Vth for 1.2V or lower.

3. Flash Fires Prematurely

Check 1 :

Set the tester between terminals (2) and (4) of the PC board, with the tester set for "X 1 ohm range".
If the tester should indicate some reading other than infinity -

(1) The trigger switch is open.
    (a) Exchange the trigger switch and set the new trigger switch so that it will close the circuit when the shutter is charged.

Check 2 :

Set the shutter speed ring to 1 second setting. Connect a constant voltage source of 2.6V, with the "+" lead connected to terminal (1) and "-" lead connected to terminal (4) of the PC board. Set a tester between terminals (SL) and (4) of the PC board, with the tester set for "DC 5V range" and the "+" test lead connected to (SL) and the "-" test lead connected to (4).
Finally, swing up the reflex mirror with your hand.
If the meter indication should change from about 2.5V to zero, after an elapse of about one second -

(1) There is premature firing due to mechanical (not electrical) reasons, as for example -
    (a) Improper spacing of the armature core, which must be corrected, with the voltage stabilized at 2.2V.

    (b) Catching of the second curtain claw is not good.

Check 3 :

Set the tester between the "-" terminal of the battery compartment and the camera body, with the tester set for "X 1 ohm range".

If the meter indicates 0-ohm-

(1) The trigger switch and camera body are short-circuited and/or the electrical circuit is defective.

(a) Check the trigger switch and the wiring, and correct, where necessary.

4. Fast Battery Consumption

Check 1 :

Set the tester between terminal (1) of the PC board and the camera body, with the tester set for "X 1 ohm range".

Should the meter indicate 0-ohm-

(1) The main switch is constantly ON.

(a) Enlarge the space(interval) between the contacts of the main switch.

Remarks :

(1) Use a constant voltage source of 2.6 volts.

(2) When testing with the tester set for the ohm-meter circuit, always disconnect the power source.

TOPCON IC-1

80A
SERVICE PARTS LIST

1973-August
1974-August

TOKYO OPTICAL CO., LTD
TOKYO JAPAN

CONTENTS

Illustration (to find out Parts No. from illustration)

	Page
1. Top cover and bottom cover	1- 2
2. Rewind mechanism	3- 4
3. Winding mechanism	5- 6
4. Film counter	7- 8
5. Lens mount and aperture coupling unit	9-12
6. Focusing screen	13-14
7. Mirror box assembly	15-16
8. Shutter assembly	17-18
9. Shutter control unit	19-20
10. Back cover	21-22
11. Meter system	23-24

Parts list (to find out illustration Parts No.)

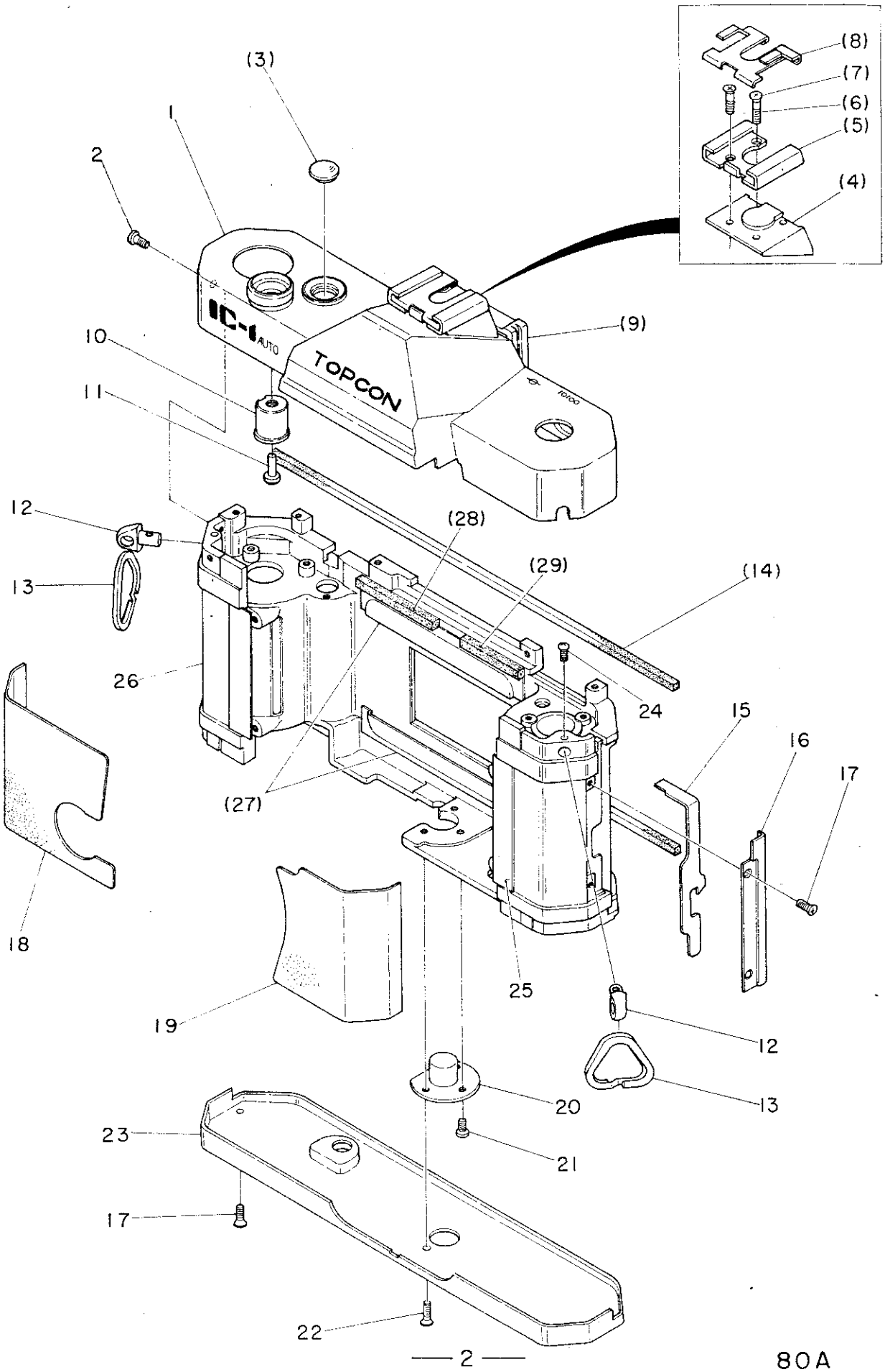
1. Glass parts	25
2. Original parts	26-30
3. Screw	31
4. Washer	32

NOTE

Always give Parts No. and Name when Ordering parts.

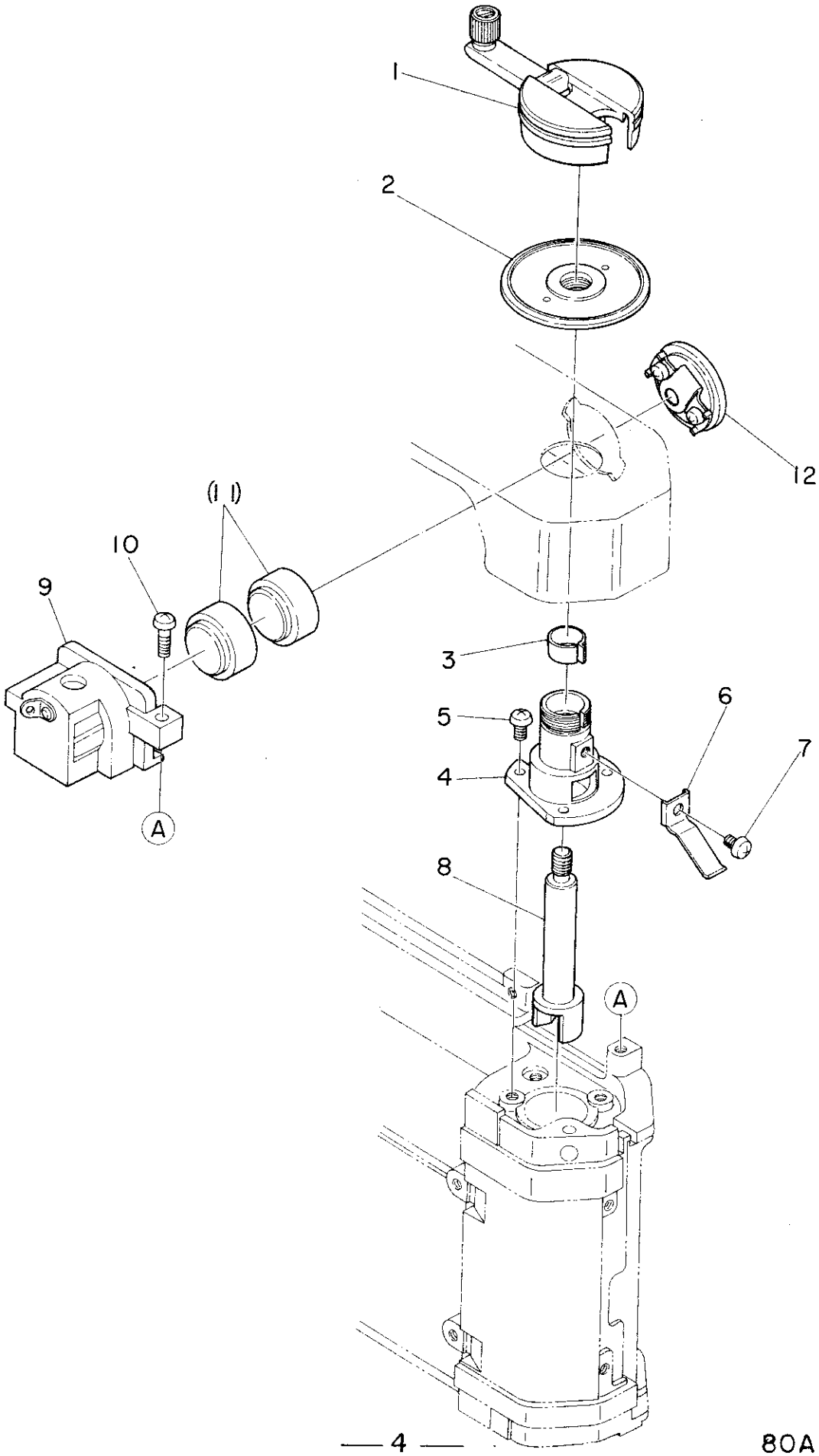
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 10020	Top cover ass'y	1		
2	CR1.7x2.5S Cr	Screw	2		
(3)	80A 1005	Counter window	1		
(4)	80A 1016	Accesory shore base	1		
(5)	68A 1014-1	Accesory shore	1		
(6)	CQs1.7x6S Ni	Screw	2		
(7)	CQs1.7x10S Ni	Screw	2		
(8)	68A 1015-1	Shore spring	1		
(9)	80A 10090	Eyepieace ass'y	1		
10	80A 1004-3	Shutter botton	1		
11	80A 1012-1	Pin	1		
12	32A 1005-4	Shoulder strap lug	2		
13	68A 1041	Strap lug ring	2		
(14)	80A 1017	Moltplene	2		
15	80A 1011-1	Lock plate	1		
16	80A 1013	Cover	1		
17	CQs1.7x2.5S Cr	Screw	4		
18	80A 1014	Leather (left)	1		
19	80A 1015	Leather (right)	1		
20	80A 1008-2	Tripod socket	1		
21	CRs1.7x2.5S Ni	Screw	2		
22	CQs1.7x3.5S Cr	Screw	1		
23	80A 1006	Bottom cover	1		
24	CRs1.7x6S Ni	Screw	1		
25	80A 1018-1	Plate	2		
26	80A 10010	Body ass'y	1		
(27)	80A 1019-1	Cloth	2		
(28)	80A 1021-2	Moltplene	1		
(29)	80A 1022-2	Moltplene	1		

1. Top cover and bottom cover



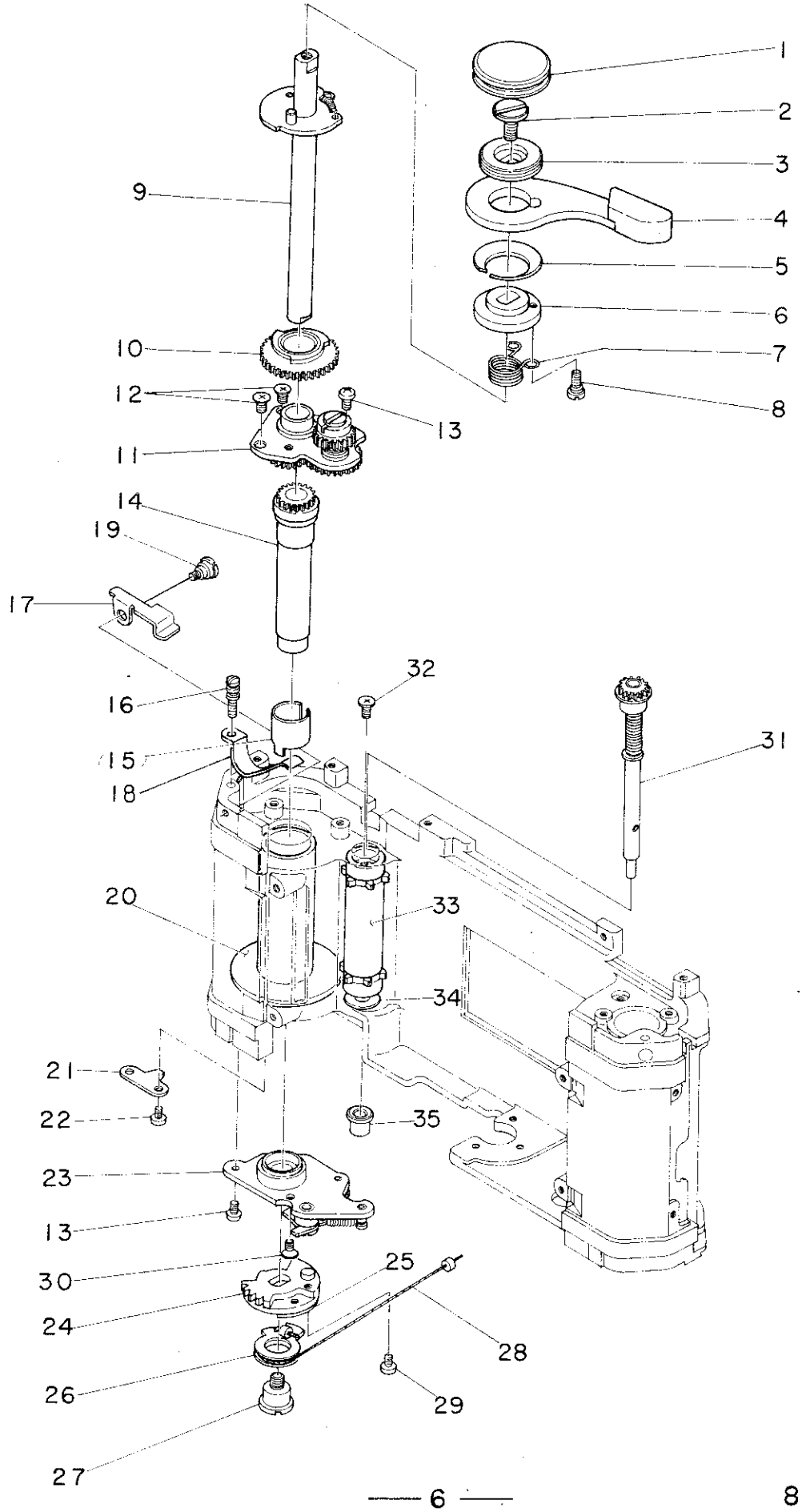
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 15120	Rewinding knob ass'y	1		
2	80A 1508-2	Nut	1		
3	80A 1509-1	Spring	1		
4	80A 1501	Rewinding base	1		
5	CR1.7x3.5S Ni	Screw	3		
6	80A 1507-2	Spring	1		
7	CR1.7x1.5S Ni	Screw	1		
8	80A 1502-2	Rewinding shaft	1		
9	80A 15030	Battery case	1		
10	CR1.7x6S Ni	Screw	1		
(11)		Battery	?		
12	80A 15050	Battery cap ass'y	1		

2. Rewind mechanism



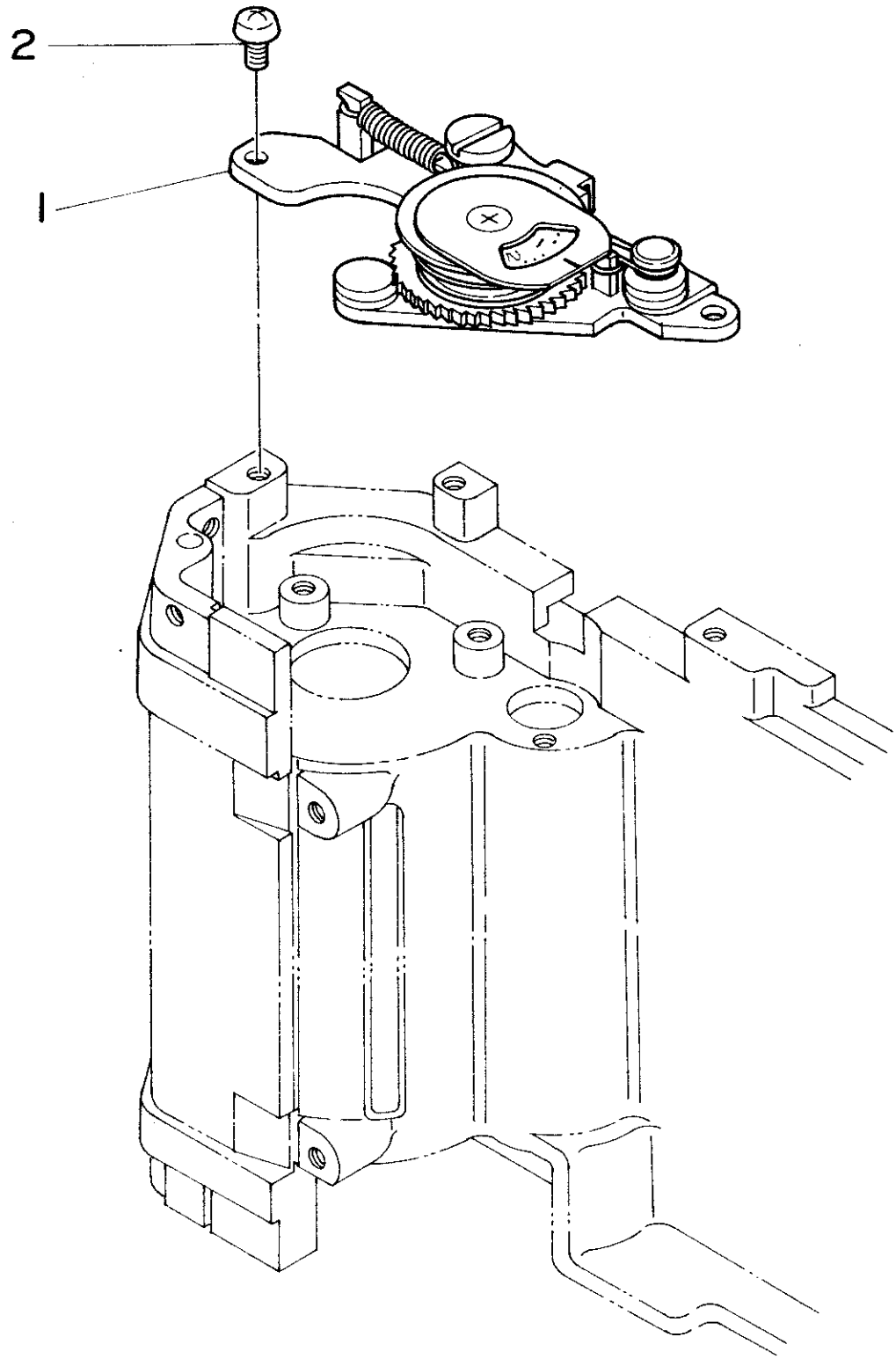
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 2033-2	Winding lever cap	1		
2	50A 2046-2	Screw	1		
3	80A 2032-3	Ring	1		
4	68AJ 20360	Winding lever ass'y	1		
5	56A 2103	Spring washer	1		
6	80A 2029-4	Clutch	1		
7	80A 2076	Spring	1		
8	68A 2041-1	Screw	1		
9	80A 20210	Winding shaft ass'y	1		
10	80A 20050	Clutch gear ass'y	1		
11	80A 20100	Base and gear ass'y	1		
12	CQsl.7x4S Ni	Screw	2		
13	CRl.7x3.5S Ni	Screw	2		
14	80A 20220	Spool shaft ass'y	1		
(15)	80A 2018-1	Spring	1		
16	80A 2031-2	Screw	1		
17	80A 2047-4	Lever	1		
18	80A 2053-1	Spring	1		
19	80A 2071-3	Screw	1		
20	68AJ 2004	Spool	1		
21	80A 2079-1	Stopper	1		
22	CRl.7x4S Ni	Screw	2		
23	80A 20420	Base ass'y	1		
24	80A 20780	Crank plate ass'y	1		
25	80A 20520	Adujsting plate ass'y	1		
26	80A 20450	Pulley ass'y	1		
27	80A 2046-3	Screw	1		
28	80A 2073-3	Wire	1		
29	CRsl.7x3S Ni	Screw	2		
30	CQl.7x3S Ni	Screw	2		
31	80A 20240	Sprocket shaft ass'y	1		
32	CQsl.7x2.2S Ni	Screw	1		
33	68A 2018-2	Sprocket	1		
34	54A 2067	Washer	1		
35	80A 2055-1	Rewinding button	1		

3. Winding mechanism



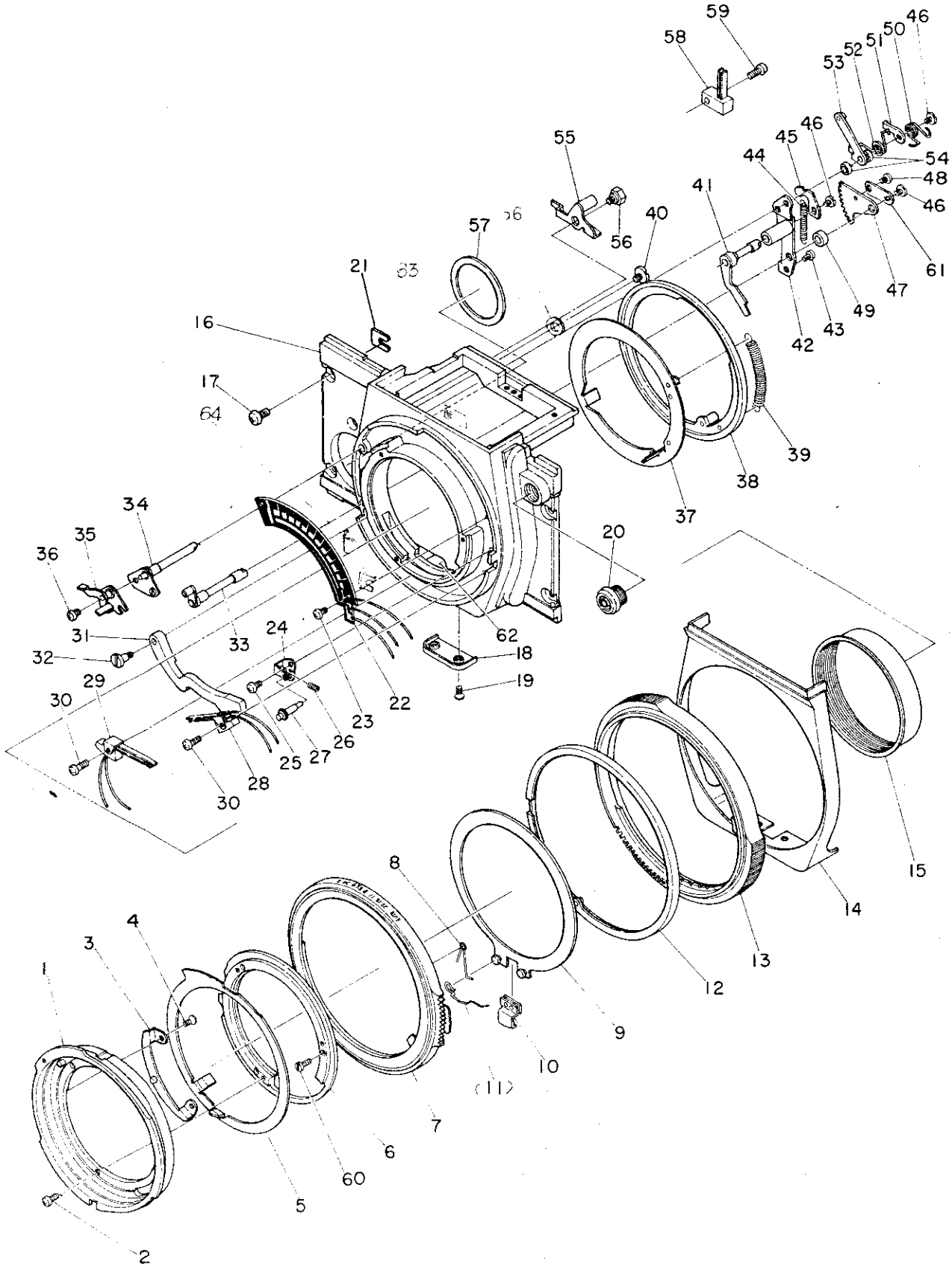
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 25000	Film counter ass'y	1		
2	CB1.7x4S Ni	Screw	3		

4. Film counter



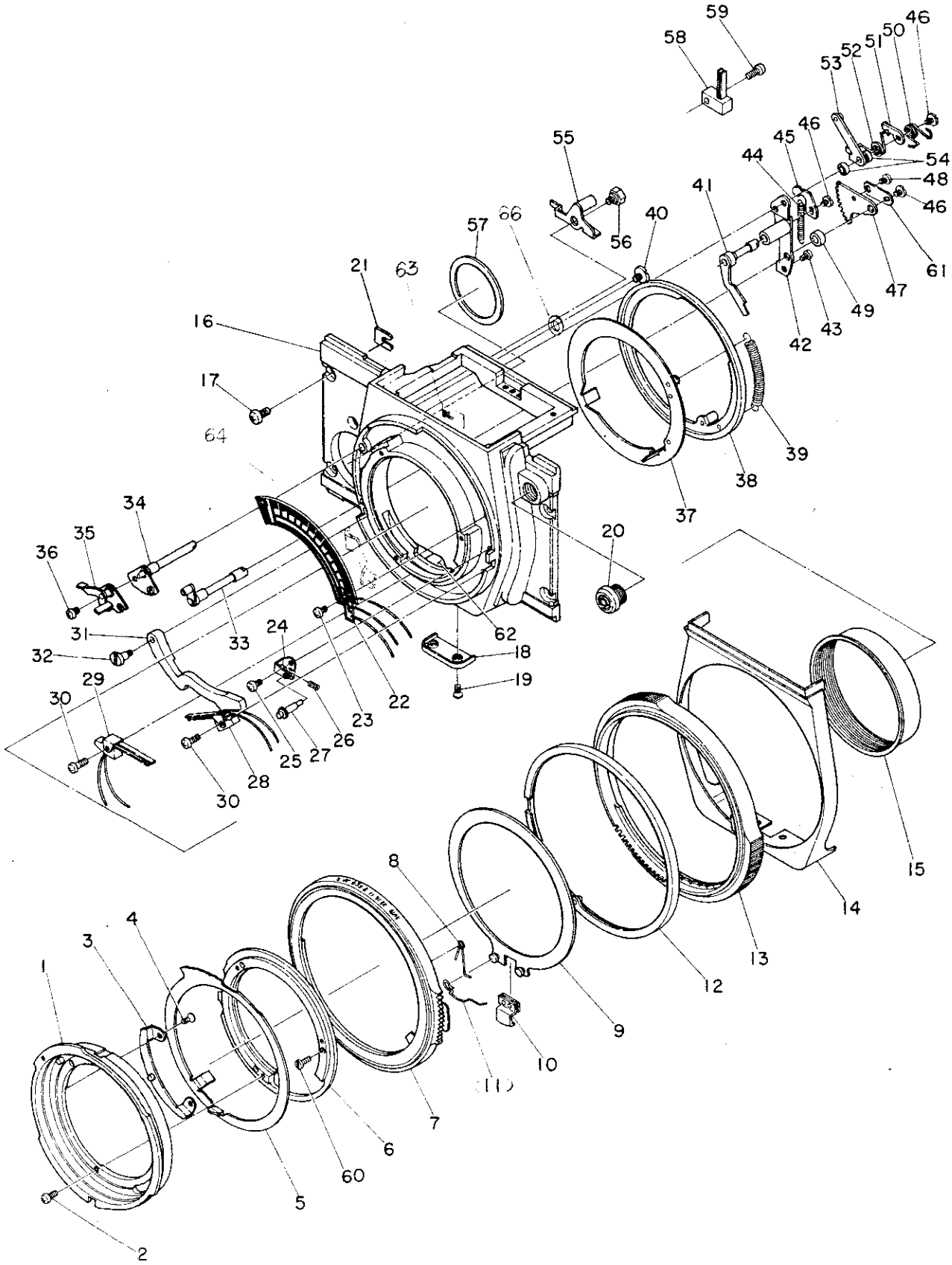
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 30080	Mount ass'y	1		
2	CRsl.7x2S Cr	Screw	3		
3	80A 30580	Spring ass'y	1		
4	50A 3064-1	Screw	2		
5	80A 3038-2	Diaphragm actuating ring	1		
6	80A 3002-1	Hausing	1		
7	80A 30050	Diaphragm ring ass'y	1		
8	80A 3063-1	Spring	1		
9	80A 30390	Cam ring ass'y	1		
10	80A 30520	Film speed lever ass'y	1		
(11)	80A 3055-5	Spring	1		
12	80A 30490	Film speed ring ass'y	1		
13	80A 30040	Speed ring ass'y	1		
14	80A 30210	Front cover ass'y	1		
15	80A 3018	Cover	1		
16	80A 3001-4	Front base	1		
17	CR2x4S Ni	Screw	4		
18	80A 3023	Cover	1		
19	CQsl.7x3.5S Cr	Screw	2		
20	68A 30130	Frash socket ass'y	1		
21	50A 3099	Washer			
22	80A 3009-3	Speed control resistance	1		
23	80A 3159	Screw	2		
24	80A 31540	Click spring plate ass'y	1		
25	CRl.4x2S Ni	Screw	2		
26	80A 3153-3	Spring	1		
27	80A 3151-5	Click pin	1		
28	80A 3760-1	Main switch	1		
29	80A 3770	Safe switch	1		
30	CRl.4x5S Ni	Screw	2		
31	80A 3077	Switch lever	1		
32	80A 3078	Screw	1		
33	80A 30440	Coupling shaft ass'y	1		
34	80A 30280	Adjust lever ass'y	1		
35	80A 30260	Coupling lever ass'y	1		
36	CRsl.4xl.6S Ni	Screw	1		
37	80A 31410	Mirror holding ring ass'y	1		

5. Lens mount and apertue coupring unit



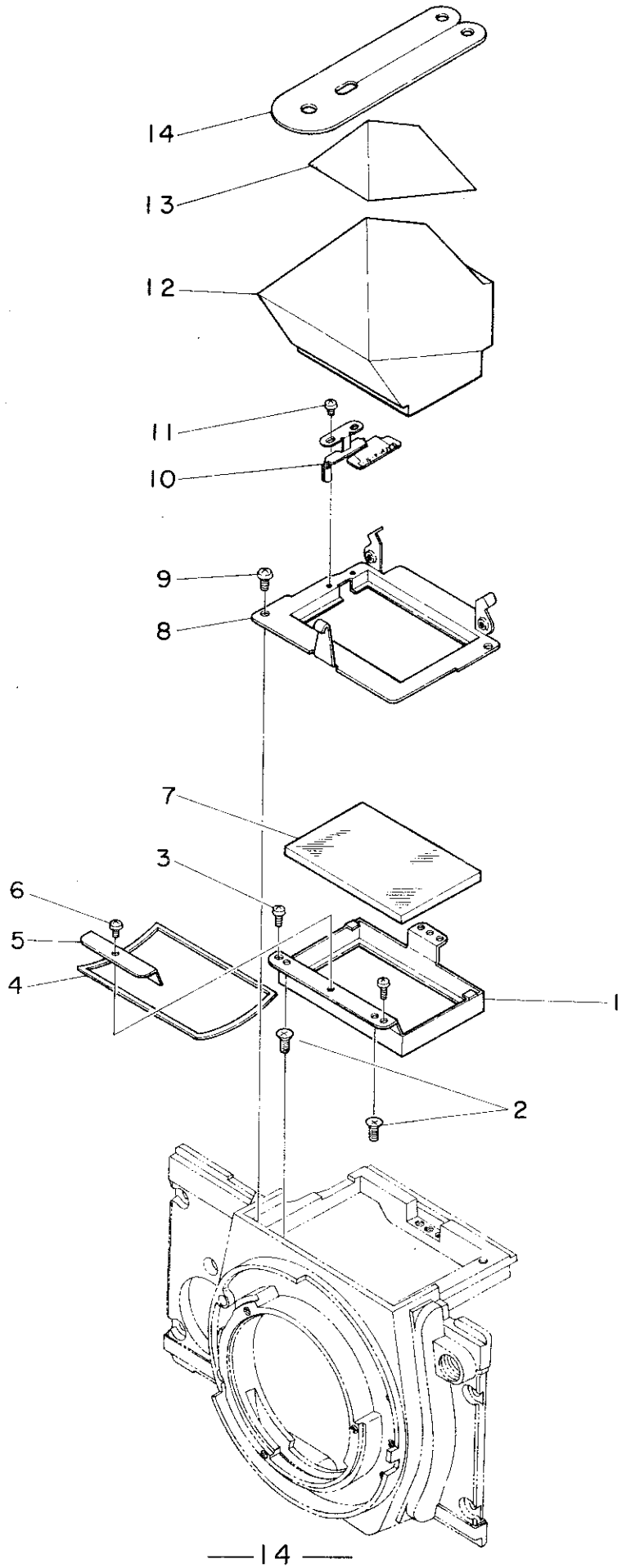
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
38	80A 31420	Set ring ass'y	1		
39	80A 3068-3	Spring	1		
40	80A 3165	Screw	4		
41	80A 30660	Starting lever ass'y	1		
42	80A 30190	Bearing and plate ass'y	1		
43	CR1.7x3S Ni	Screw	2		
44	80A 3024-3	Spring	1		
45	80A 3072	Lever	1		
46	80A 3069	Screw	3		
47	80A 3042-1	Partial gear	1		
48	CR1.4x1.8S Ni	Screw	1		
49	80A 3059-2	Ring	1		
50	80A 3034-2	Spring	1		
51	80A 3031-1	Lever	1		
52	80A 3033-2	Spring	1		
53	80A 30290	Connecting lever ass'y	1		
54	80A 3035	Ring	2		
55	80A 30130	Release lever ass'y	1		
56	80A 3011-2	Screw	1		
57	80A 3152	Moltplene	1		
58	80A 5106	B-switch	1		
59	CR1.7x4S Ni	Screw	1		
60	80A 3003	Screw	3		
61	80A 3147-1	Adjust plate	1		
62	80A 3159	Cloth	1		
63	80A 3161	Cloth	1		
64	80A 3158-1	Spring	1		
65	80A 3069	Screw	3		
66	80A 3166	Washer	4		

5. Lens mount and aperture coupring unit



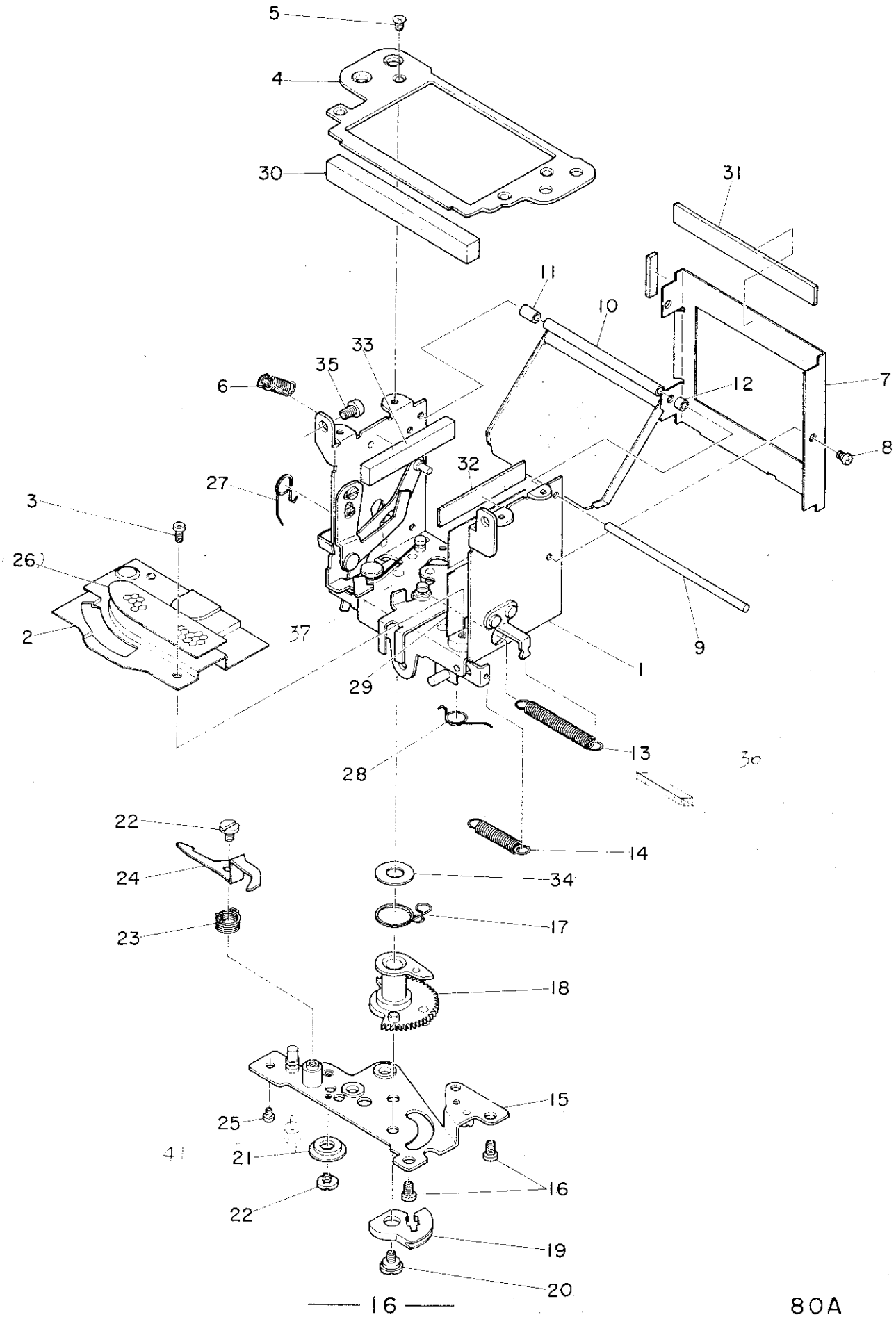
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 3131-4	Finder flame	1		
2	CQ1.7x3.5S BZn	Screw	3		
3	CR1.7x3.5S BZn	Screw	4		
4	80A 3135-3	Spring	1		
5	80A 3136-2	Plate	1		
6	CRs1.4x2S Ni	Screw	1		
7	68A G8	Screen	1		
8	80A 3132-3	Penta holder	1		
9	CR1.7x3S BZn	Screw	2		
10	80A 31340	Exposure meter scale ass'y	1		
11	CR1.4x1.6S BZn	Screw	2		
12	68A G9	Penta prism	1		
14	68A 5070-2	Penta cap	1		
13	42A 1003-1	Belt	1		

6. Focusing screen



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 40010	Mirror box ass'y	1		
2	80A 40780	Plate ass'y	1		
3	CR1.4x3.5S BZn	Screw	2		
4	80A 40020	Upper base plate ass'y	1		
5	CQsl.4x2.5S BZn	Screw	4		
6	80A 4035-1	Spring	1		
7	80A 40460	Frame ass'y	1		
8	CRsl.4x1.6S Ni	Screw	1		
9	32A 4044-1	Mirror shaft	1		
10	80A 40900	Mirror plate ass'y	1		
11	80A 4047	Ring	1		
12	80A 4048	Ring	1		
13	80A 4019-3	Spring	1		
14	80A 4107	Spring	1		
15	80A 40060	Lower base plate ass'y	1		
16	CR1.7x2.5S Ni	Screw	2		
17	80A 4081-2	Spring	1		
18	80A 40330	Charge gear ass'y	1		
19	80A 4066-3	Pulley	1		
20	80A 4065	Screw	1		
21	80A 4067-1	Pulley	1		
22	80A 4068-3	Screw	2		
23	80A 4069	Spring	1		
24	80A 4042-3	Lever	1		
25	CRsl.7x3S Ni	Screw	1		
(26)	80A 4093-1	Paper	1		
27	80A 4096-1	Spring	1		
28	80A 4104	Spring	1		
29	80A 4094-3	Paper	1		
30	80A 4071-3	Moltplene	1		
31	80A 4072-3	Moltplene	1		
32	80A 4073-3	Moltplene	1		
33	80A 4074-3	Moltplene	1		
34	70W42002SUS	Washer	1		
35	CR2x4S Ni	Screw	3		
36	80A 4114	Moltplene	1		
37	80A 4115	Paper	1		

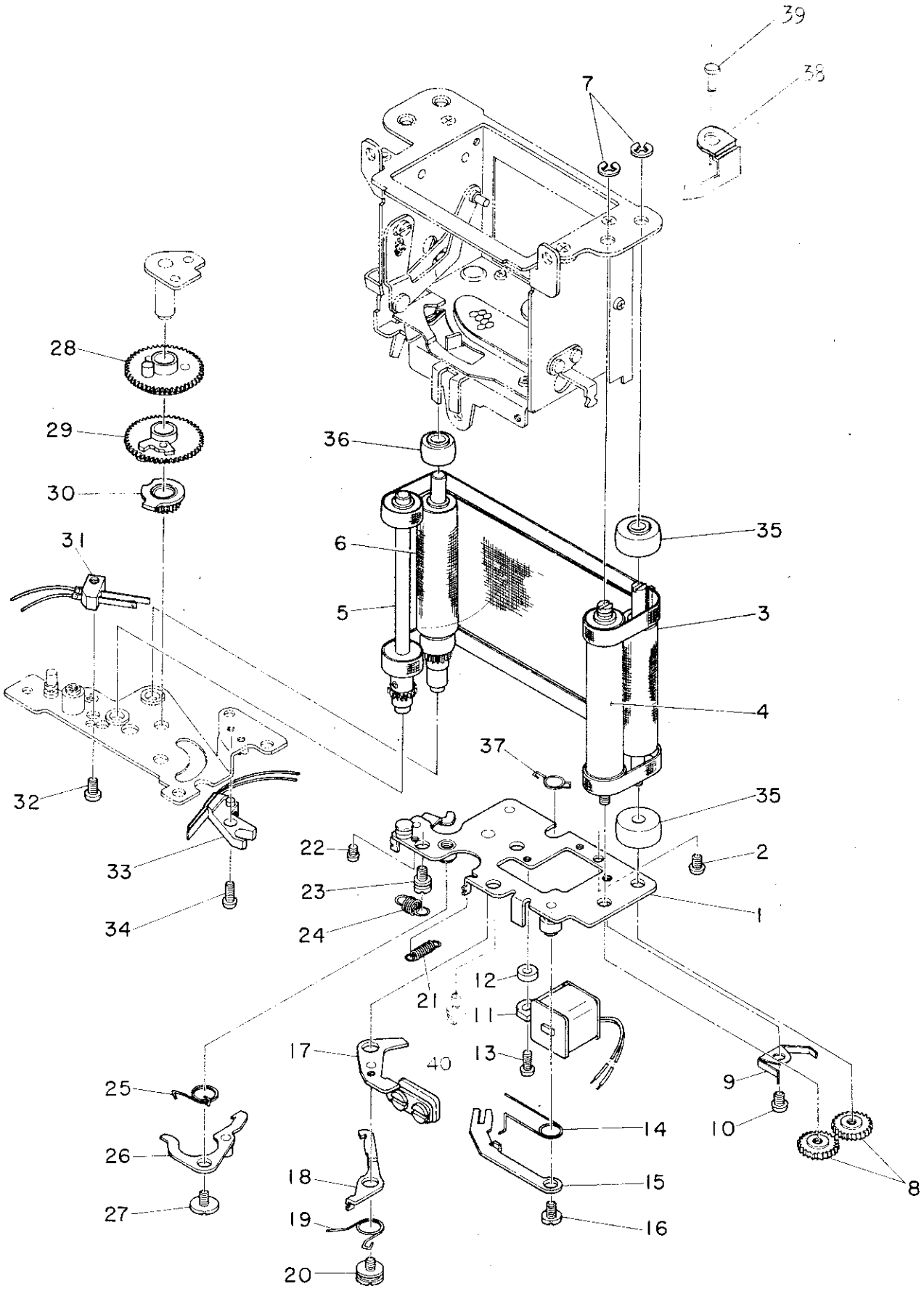
7. Mirror box assembly



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 50320	Base plate ass'y	1		
2	CR1.7x2.5S Ni	Screw	2		
3	80A 51300	1st curtain ass'y	1		
4	80A 51400	2nd curtain ass'y	1		
5	80A 51210	1st main shaft ass'y	1		
6	80A 50220	2nd main shaft ass'y	1		
7	E-20	E.ring	2		
8	32A 5082-3	Ratchet wheel	2		
9	80A 5055-1	Pawl	1		
10	CR1.7x2S Ni	Screw	1		
11	80A 51010	Electromagnet ass'y	1		
12	80A 5075-1	Ring	2		
13	CR1.4x4S Ni	Screw	2		
14	80A 5059	Spring	1		
15	80A 5027-2	Lever	1		
16	80A 5072-1	Screw	1		
17	80A 50330	Amateur lever ass'y	1		
18	80A 5031-4	2nd snaped lever	1		
19	80A 5056	Spring	1		
20	80A 5048	Screw	1		
21	80A 5062-1	Spring	1		
22	CR1.4x1.8S Ni	Screw	1		
23	80A 5127	Screw	1		
24	80A 5061-1	Spring	1		
25	80A 5057-2	Spring	1		
26	80A 51280	First snaped lever ass'y	1		
27	80A 5054	Screw	1		
28	80A 50380	1st internal gear ass'y	1		
29	80A 50390	2nd internal gear ass'y	1		
30	80A 50410	Set gear ass'y	1		
31	80A 5107-2	X-switch	1		
32	CR1.7x3S Ni	Screw	1		
33	80A 51110	Trigger switch ass'y	1		
34	CR1.7x4S Ni	Screw	1		
35	80A 5069-1	Pulley	2		
36	80A 5019-1	Pulley	1		
37	80A 5058-1	Spring	1		

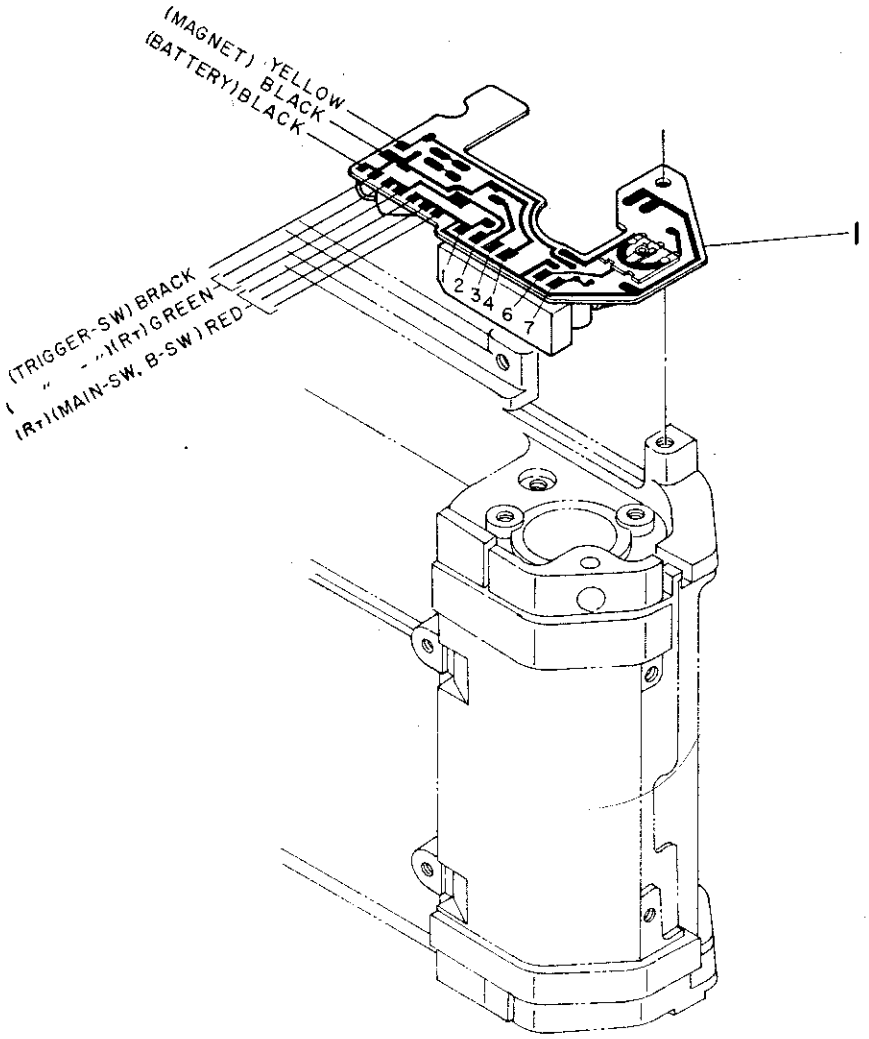
P.S. 38 80A 5126 , 39 CR1.7x2S Ni , 40 80A 5053-1 , 41 324 1075-5

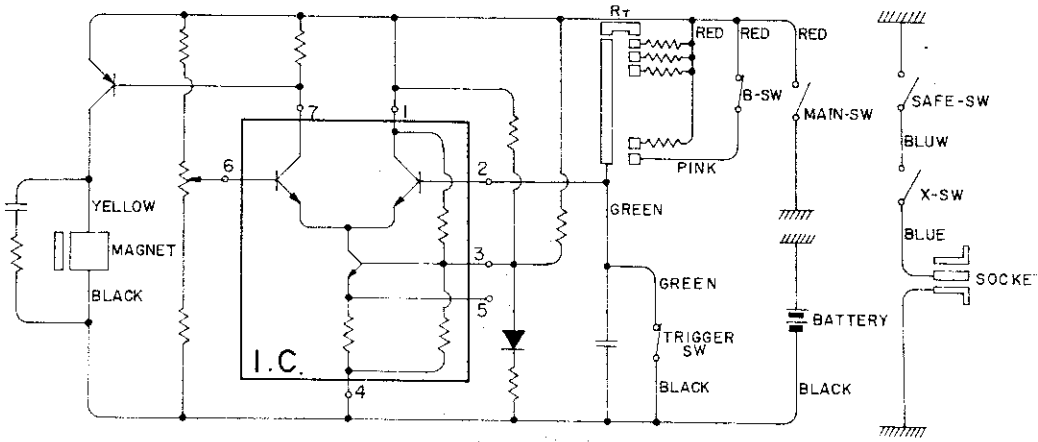
8. Shutter aseembly



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	30A 5500	Print plate	1		

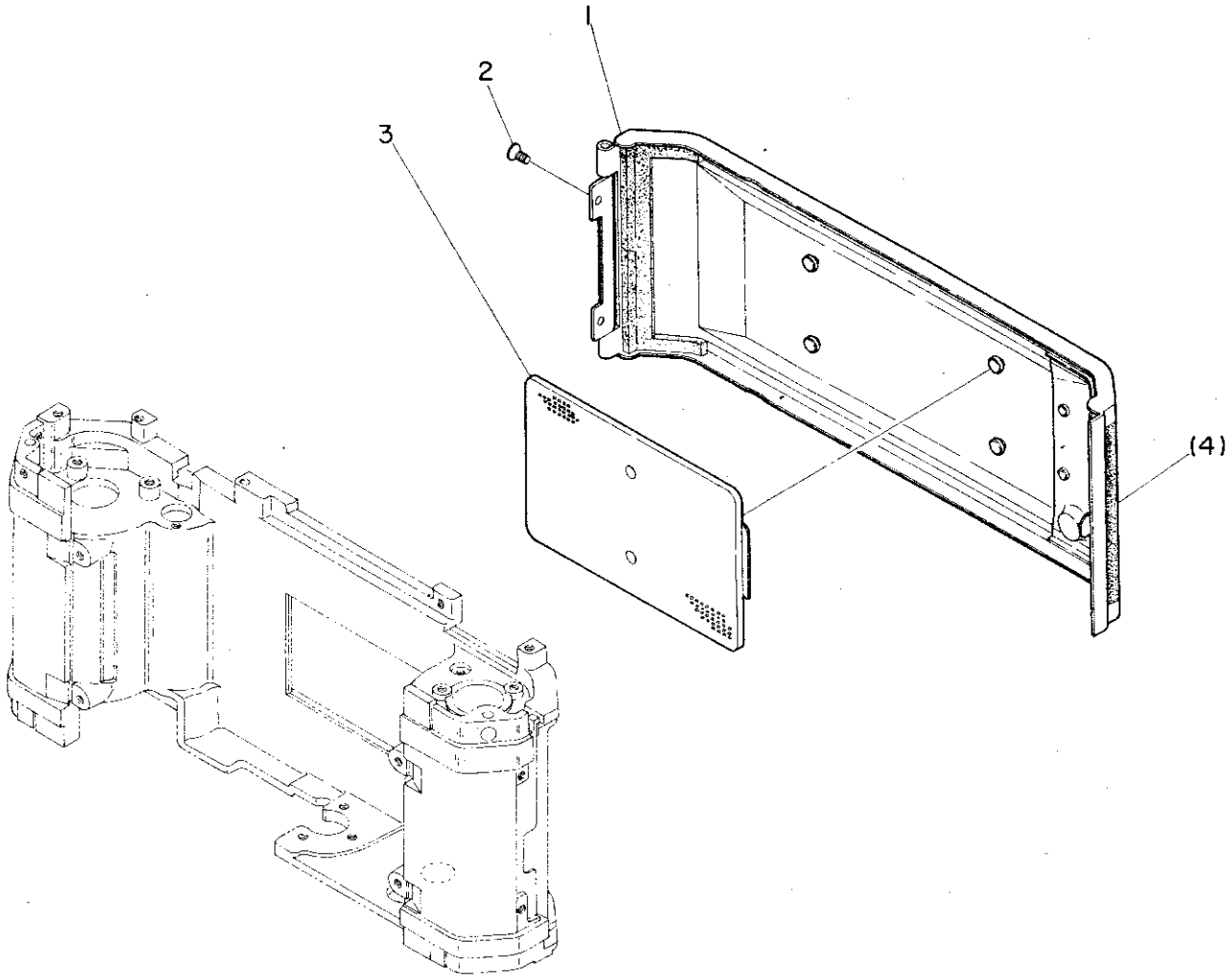
9. Shutter control unit





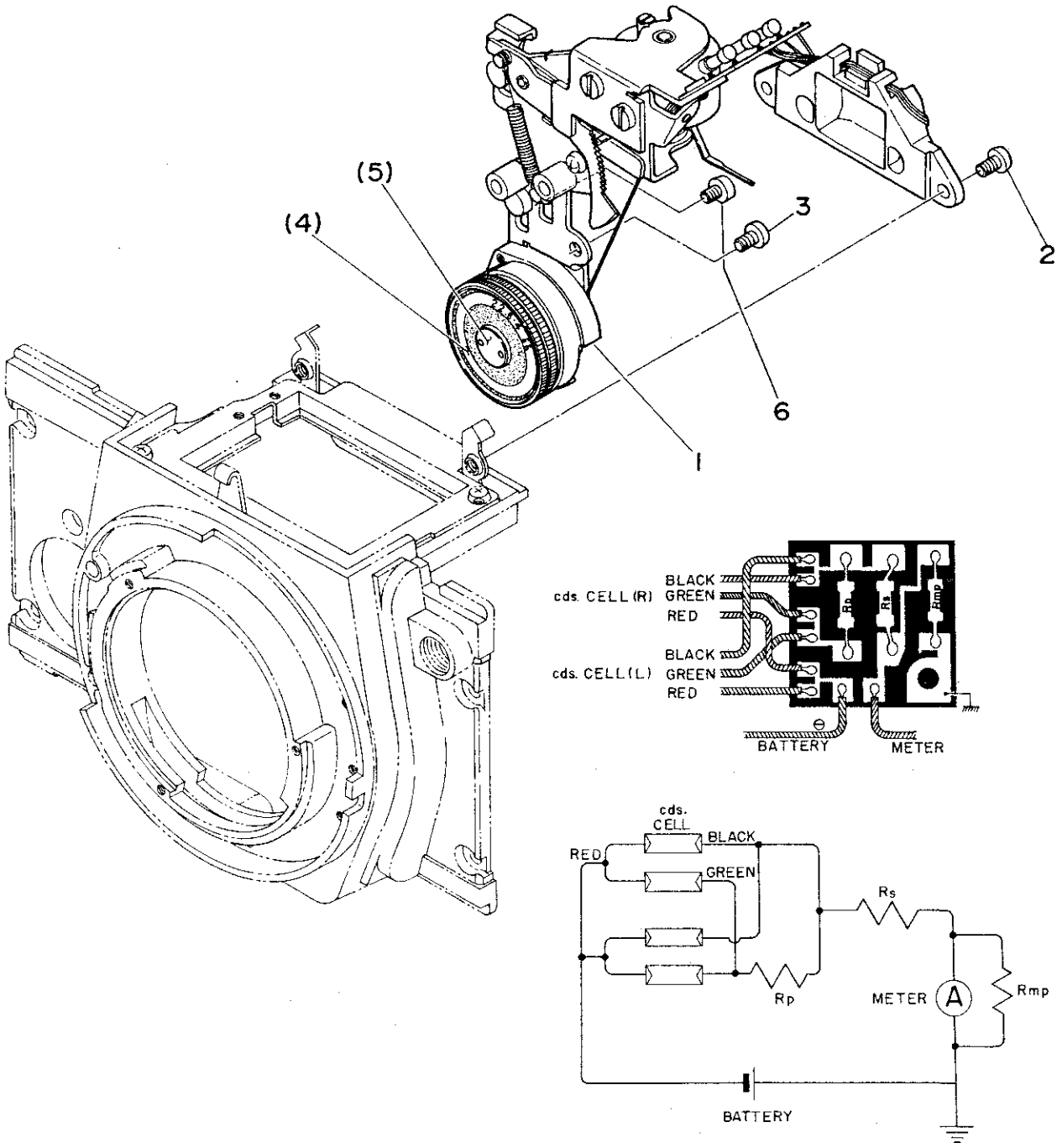
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 60100	Back cover ass'y	1		
2	CQsl.7x2.5S BZn	Screw	2		
3	68A 60080	Pressure plate ass'y	1		
(4)	80A 6015-1	Leather	1		

10. Back cover



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 70000	Exposure meter ass'y	1		
2	CR1.7x6S Ni	Screw	2		
3	CR1.4x3.5S Ni	Screw	1		
(4)	80A 7044	F number scale	1		
(5)	80A 7054	Screw	1		
6	CRs1.7x3S Ni	Screw	2		

11. Meter system



Parts List (Glass Parts)

Parts No.	Parts Name	Page	No.	Remarks
68A G8	Screen	13	7	
68A G9	Penta prism	13	12	

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
80A 10010	Body ass'y	1	26	
80A 10020	Top cover ass'y	1	1	
80A 1004-3	Shutter botton	1	10	
80A 1005	Counter window	1	(3)	
80A 1006	Bottom cover	1	23	
80A 1008-2	Tripod socket	1	20	
80A 10090	Eyepieace ass'y	1	(9)	
80A 1011-1	Lock plate	1	15	
80A 1012-1	Pin	1	11	
80A 1013	Cover	1	16	
80A 1014	Leather (left)	1	18	
80A 1015	Leather (right)	1	19	
80A 1016	Accesory shore base	1	(4)	
80A 1017	Moltplene	1	14	
80A 1018-1	Plate	1	25	
80A 1019	Cloth	1	(27)	
80A 1021-2	Moltplene	1	(28)	
80A 1022-2	Moltplene	1	(29)	
80A 1501	Rewinding base	3	4	
80A 1502-2	Rewinding shaft	3	8	
80A 15030	Battery case	3	9	
80A 15050	Battery cap ass'y	3	12	
80A 1507-2	Spring	3	6	
80A 1508-2	Nut	3	2	
80A 1509-1	Spring	3	3	
80A 15120	Rewinding knob ass'y	3	1	
80A 20050	Clutch gear ass'y	5	10	
80A 20100	Base and gear ass'y	5	11	
80A 20210	Winding shaft ass'y	5	9	
80A 2018-1	Spring	5	15	
80A 2029-4	Clutch	5	6	
80A 2031-2	Screw	5	16	
80A 2032-3	Ring	5	3	
80A 2033-2	Winding lever cap	5	1	
80A 20420	Base ass'y	5	23	
80A 20780	Crank plate ass'y	5	24	
80A 2045-5	Pulley	5	26	

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Rematks
80A 2046-3	Screw	5	27	
80A 2047-4	Lever	5	17	
80A 20520	Ajusting plate ass'y	5	25	
80A 2053-1	Spring	5	18	
80A 2055	Rewinding button	5	35	
80A 2071-3	Screw	5	19	
80A 2073-3	Wire	5	28	
80A 2076	Spring	5	7	
80A 2079-1	Stopper	5	21	
80A 3001-4	Front base	9	16	
80A 3002-1	Hausing	9	6	
80A 3003	Screw	11	60	
80A 30040	Speed ring ass'y	9	13	
80A 30050	Diaphragm ring ass'y	9	7	
80A 30080	Mount ass'y	9	1	
80A 3009-3	Speed control resistance	9	22	
80A 3011-2	Screw	11	56	
80A 30130	Release lever ass'y	11	55	
80A 31540	Click spring plate ass'y	9	24	
80A 3018	Cover	9	15	
80A 30190	Bearing and plate ass'y	11	42	
80A 30210	Front cover ass'y	9	14	
80A 3023	Cover	9	18	
80A 3024-3	Spring	11	44	
80A 30260	Coupling lever ass'y	9	35	
80A 30280	Adjust lever ass'y	9	34	
80A 30290	Connecting lever ass'y	11	53	
80A 3031-1	Lever	11	51	
80A 3033-2	Spring	11	52	
80A 3034-2	Spring	11	50	
80A 3035	Ring	11	54	
80A 3038-2	Diaphragm actuating ring	9	5	
80A 30390	Cam ring ass'y	9	9	
80A 3042-1	Partial gear	11	47	
80A 30440	Coupling shaft ass'y	9	33	
80A 30490	Film speed ring ass'y	9	12	
80A 30520	Film speed lever ass'y	9	10	

P.S. 80A 3069 11-65 , 80A 3158-1 11-64 , 80A 3161 11-63
80A 3166 11-66 ,

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
80A 3055-5	Spring	9	11	
80A 3058	Spring	9	3	
80A 3059-2	Ring	11	49	
80A 3063-1	Spring	9	8	
80A 30660	Starting lever ass'y	11	41	
80A 3068-3	Spring	11	39	
80A 3069	Screw	11	46	
80A 3072	Lever	11	45	
80A 3077	Switch lever	9	31	
80A 3078	Screw	9	32	
80A 3131-4	Finder flame	13	1	
80A 3132-3	Penta holder	13	8	
80A 31340	Exposure meter scale ass'y	13	10	
80A 3135-3	Spring	13	4	
80A 3136-2	Plate	13	5	
80A 31410	Mirror holding ring ass'y	9	37	
80A 31420	Set ring	11	38	
80A 3147	Adjust plate	11	61	
80A 3151-5	Click pin	9	27	
80A 3152	Moltplene	11	57	
80A 3153-3	Spring	9	26	
80A 3155	Cloth	11	62	
80A 3760-1	Main switch	9	28	
80A 3770	Safe switch	9	29	
80A 40010	Mirror box ass'y	15	1	
80A 40020	Upper base plate ass'y	15	4	
32A 4044-1	Mirror shaft	15	9	
80A 40060	Lower base plate ass'y	15	15	
80A 4019-3	Spring	15	13	
80A 40330	Charge gear ass'y	15	18	
80A 4035-1	Spring	15	6	
80A 4042-3	Lever	15	24	
80A 40460	Frame ass'y	15	7	
80A 4047	Ring	15	11	
80A 4048	Ring	15	12	
80A 4065	Screw	15	20	
80A 4066-3	Pulley	15	19	
80A 4067-1	Pulley	15	21	

P.S. 80A 4114 15-36 , 80A 4115 15-37

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
80A 4068-3	Screw	15	22	
80A 4069	Spring	15	23	
80A 4071-3	Moltplene	15	30	
80A 4072-3	Moltplene	15	31	
80A 4073-3	Moltplene	15	32	
80A 4074-3	Moltplene	15	33	
80A 40780	Plate ass'y	15	2	
80A 4081-2	Spring	15	17	
80A 40900	Mirror plate ass'y	15	10	
80A 4093-1	Paper	15	26	
80A 4094-3	Paper	15	29	
80A 4096-1	Spring	15	27	
80A 4104	Spring	15	28	
80A 4107	Spring	15	14	
80A 5009-1	Pulley	17	35	
80A 51300	1st curtain ass'y	17	3	
80A 51400	2nd curtain ass'y	17	4	
80A 5019-1	Pulley	17	36	
80A 50220	2nd main shaft ass'y	17	6	
80A 5027-2	Lever	17	15	
80A 51280	First snaped lever ass'y	17	26	
80A 5031-2	2nd snaped lever	17	18	
80A 50320	Base plate ass'y	17	1	
80A 5033	Amateur lever ass'y	17	17	
80A 50380	1st internal gear ass'y	17	28	
80A 50390	2nd internal gear ass'y	17	29	
80A 50410	Set gear ass'y	17	30	
80A 5048	Screw	17	20	
80A 5053-1	Screw	17	40	
80A 5054	Screw	17	27	
80A 5055-1	Pawl	17	9	
80A 5056	Spring	17	19	
80A 5057-2	Spring	17	25	
80A 5058-1	Spring	17	37	
80A 5061	Spring	17	24	
80A 5062-1	Spring	17	21	
80A 5075-1	Ring	17	12	
80A 51010	Electromagnet ass'y	17	11	

P.S. 80A 5126 17-38 , 80A 5127 17-23

Parts List (Original Parts)

Parts No.	Parts Name	Page	No.	Remarks
80A 5106	B-switch	11	58	
80A 5107-2	X-switch	17	31	
80A 51100	Trigger switch ass'y	17	33	
80A 51210	1st main shaft ass'y	17	5	
80A 5500	Print plate	19	1	
80A 60100	Back cover ass'y	21	1	
80A 6015-1	Leather	21	(4)	
80A 70000	Exposure meter ass'y	23	1	
80A 7044	F number scall	23	(4)	
80A 7054	Screw	23	(5)	
32A 1005-4	Shoulder strap lug	1	12	
32A 5082-3	Ratchet wheel	17	8	
42A 1003-1	Belt	13	14	
50A 2046-2	Screw	5	2	
50A 3064-1	Screw	9	4	
50A 3099	Washer	9	21	
50A 5059	Spring	17	14	
50A 5072-1	Screw	17	16	
54A 20240	Sprocket shaft ass'y	5	31	
54A 2067	Washer	5	34	
80A 3165	Screw	11	40	
56A 2103	Spring washer	5	5	
68A 1014-1	Accesory shore	1	(5)	
68A 1015-1	Shore spring	1	(8)	
68A 1041	Strap lug ring	1	13	
68A 2018-2	Sprocket	5	33	
68A 20220	Spool shaft ass'y	5	14	
68A 2041-1	Screw	5	8	
80A 25000	Film counter ass'y	7	1	
68A 30130	Frash socket ass'y	9	20	
68A 5076-2	Penta cap	13	13	
68A 60080	Pressure plate ass'y	21	3	
68AJ 2004	Spool	5	20	
68AJ 20360	Winding lever ass'y	5	4	
	Battery	3	(11)	
32A 1075-5	Screw	17	41	

Parts List (Screw)

Parts No.	Parts Name	Page	No.	Remarks
CQ1.7x3S Ni	Screw	5	30	
CQ1.7x3.5S BZn	Screw	13	2	
CQsl.4x2.5S BZn	Screw	15	5	
CQsl.7x2.2S Ni	Screw	5	32	
CQsl.7x2.5S BZn	Screw	21	2	
CQsl.7x2.5S Cr	Screw	1	17	
CQsl.7x3.5S Cr	Screw	1,9	22,19	
CQsl.7x4S Ni	Screw	5	12	
CQsl.7x6S Ni	Screw	1	(6)	
CQsl.7x10S Ni	Screw	1	(7)	
CR1.4x1.6S BZn	Screw	13	11	
CR1.4x1.8S Ni	Screw	11,17	48,22	
CR1.4x2S Ni	Screw	9	25	
CR1.7x3S BZn	Screw	13	9	
CR1.4x3.5S BZn	Screw	15	3	
CR1.4x3.5S Ni	Screw	23	3	
CR1.4x4S Ni	Screw	17	13	
CR1.4x5S Ni	Screw	9	30	
CR1.7x1.5S Ni	Screw	3	7	
CR1.7x2S Ni	Screw	17	10,39	
CR1.7x2.5S Cr	Screw	1	2	
CR1.7x2.5S Ni	Screw	9,15,17	23,16,2	
CR1.7x3S Ni	Screw	11,17	43,32	
CR1.7x3.5S BZn	Screw	13	3	
CR1.7x3.5S Ni	Screw	3,5	5,13	
CR1.7x4S Ni	Screw	5,11,7,17	22,59,2,34	
CR1.7x6S Ni	Screw	3,23	10,2	
CR2x4S Ni	Screw	9,15	17,35	
CRsl.4x1.6S Ni	Screw	9,15	36,8	
CRsl.4x2S Ni	Screw	13	6	
CRsl.7x2S Ni	Screw	9	2	
CRsl.7x2.5S Ni	Screw	1	21	
CRsl.7x3S Ni	Screw	5,15,23	29,25,6	
CRsl.7x6S Ni	Screw	1	24	

Parts List (Washer)

Parts No.	Parts Name	Page	No.	Remarks
70W 42002SUS	Washer	15	34	
E-20	E. Ring	17	7	

TOPCON NEW IC-1 (81A)

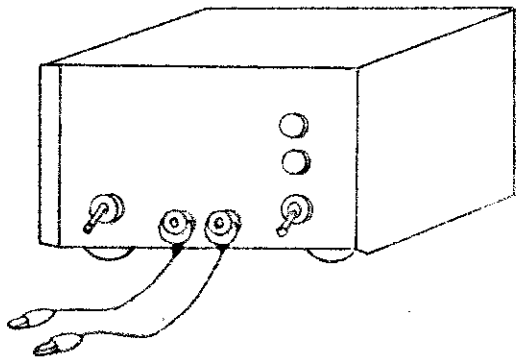
GUIDE for REPAIRS

* This Guide covers only the changes in the New IC-1, such as hot shoe, battery checker and the improvements in the shutter speed circuit and exposure meter. It should, therefore, be used together with the Guide for the TOPCON IC-1 (80A) of August 1974.

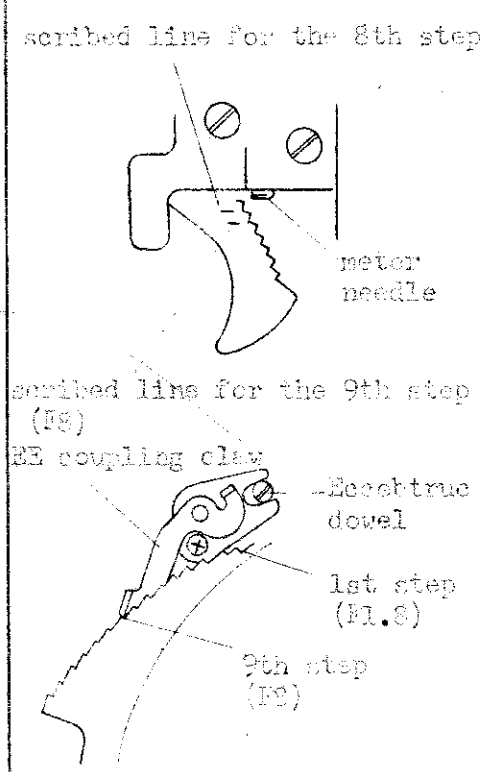
MARCH 1975

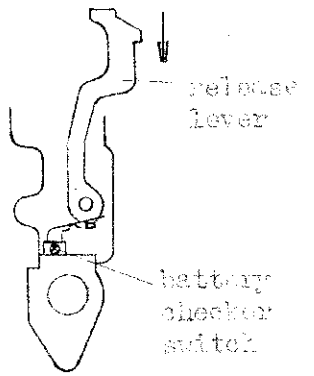
TOKYO KOGAKU KIKAI K.K.
Tokyo, Japan

1. EXCLUSIVE REPAIR TOOLS FOR THE TOPCON NEW IC-1 (81A)

Name	Drawing	Use
Power Source for checking the Battery checker		For checking the Battery checker.

SKETCH





(1) Adjustment of the EE Coupling

1. Adjust the eccentric dowel so that the EE coupling claw is coincided to the 9th step of the diaphragm ring, when the meter needle is aligned to the scribed line for the 9th step of the exposure meter stepped plate.
2. Checking

   Attach the lens mount and lens and stop down to F1.8, F8 and F16 (check against the diameter of the diaphragm when manually stopped down).

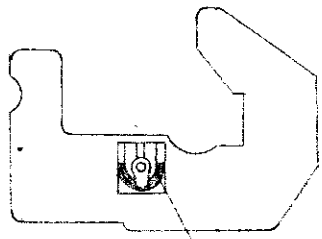
(2) Adjustment of the Battery Checker Switch

1. Adjust so that the battery checker switch is switched ON when the release lever has been depressed within the range 0.8 to 1.6 mm.

(3) Adjustment of the Bulb Switch

1. Adjust so that the bulb switch is switched OFF when the release lever has been depressed within the range 2.7 to 3.7 mm.

SKETCH



Variable resistance

(4) Adjustment of the Shutter Speed

1. Position of the Trigger Switch

   Trigger switch must switch OFF coincidental with the start of the first curtain. (Connect trigger switch to tester, after charging the shutter. Then, raise the reflex mirror quietly while looking at the tester. The trigger switch should switch OFF at the same time that the first curtain starts its run.)

2. Curtain Speed

   Adjust curtain run speed of first and second curtains to 13.0ms at the 1/500 second setting. (Adjust in same manner as for TOPCON IC-1 (80A)).

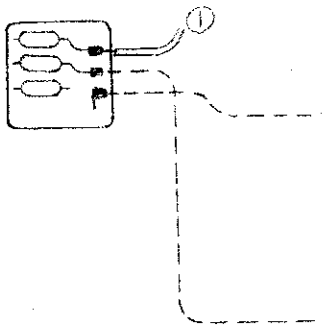
3. Shutter Speed

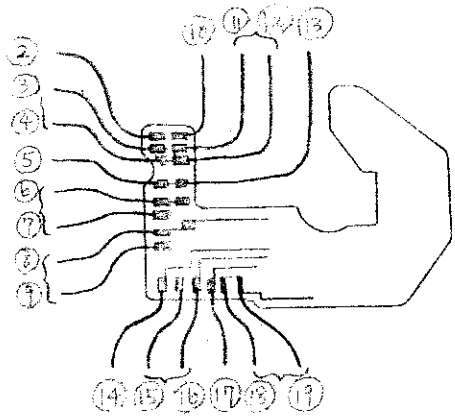
   Revolve the variable resistance and set the resistance brush to obtain a speed in the vicinity of 195ms at 1/500 sec.

4. If irregularities in the shuter speeds are not within the standard, adjust the curtain speed within the range of 13.0 $\pm$ 0.5ms.

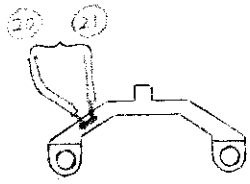
(5) Wiring

1. (black) to meter
2. (white) to battery checker switch
3. (black) to meter circuit board
4. (black) to main switch
5. (brown) to X-synchro switch
6. (pink) to bulb switch
7. (pink) to shutter speed resistance
8. (red) to solenoid switch
9. (red) to meter circuit board

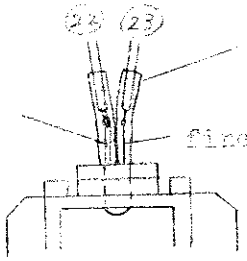




10. (white) to battery checker circuit board
11. (black) to battery checker circuit board
12. (black) to battery
13. (brown) to safety switch
14. (purple) to shutter speed resistance
15. (green) to trigger switch
16. (green) to shutter speed resistance
17. (yellow) to solenoid switch
18. (blue) to trigger switch
19. (blue) to main switch

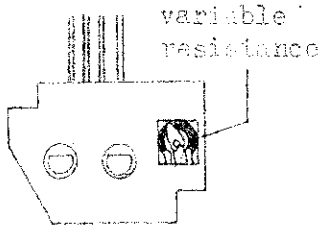


thick lead wire



20. (light blue) to X-synchro switch
21. (light blue) to terminal
22. (gray) to battery checker circuit board
23. (orange) to battery checker circuit board

SKETCH



battery checker circuit board

(6) Working Voltage of the Battery Checker

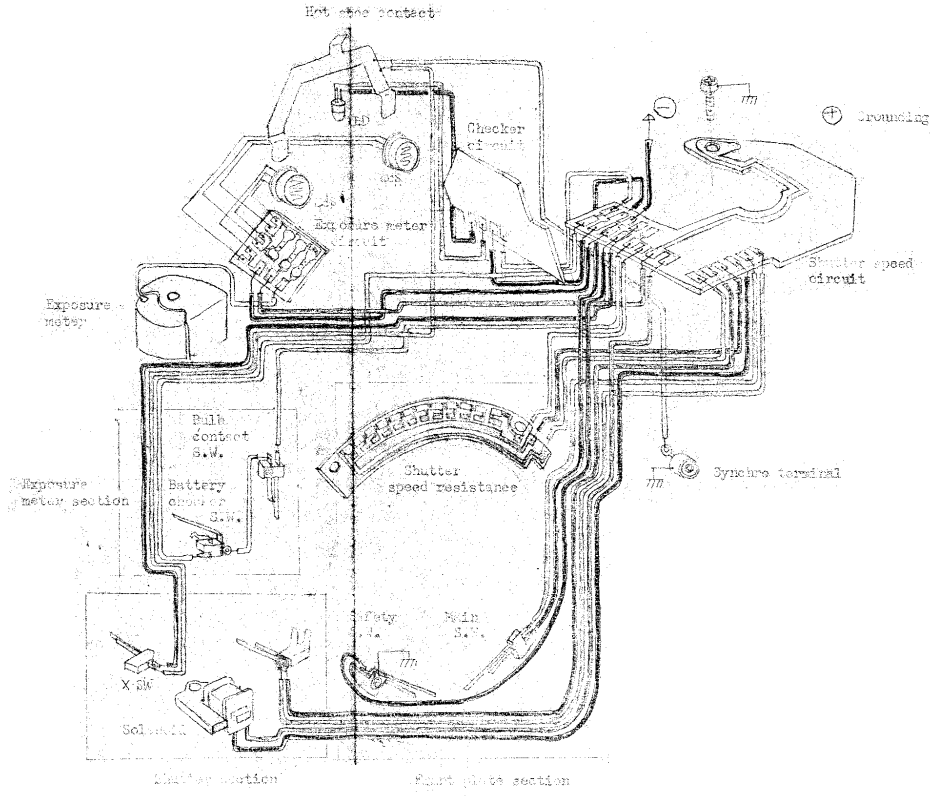
1. The LED (green-colored light) should light up at 2.18V or more and should switch off below 2.00V.
2. Use the exclusive repair tool (power source for checking the battery checker) and adjust with the variable resistance of the battery checker circuit board if the battery checker does not work at the above voltages.

(7) Hot Shoe

(Must have identical performances as the synchro terminal.)

1. Contact efficiency: Over 70%
2. Insulation resistance: Over 20M (DC 500V Insulation Resistance Tester)
3. Conductivity: Positive conductivity with DC 3V source.

Diagramatic Drawing of the 2LR Wiring Circuit



NEW

TOPCON IC-1

81A

81AW

SERVICE PARTS LIST

1975-9

1975-3

TOKYO OPTICAL CO., LTD

TOKYO JAPAN

CONTENTS

Illustration (to find out Parts No. from illustration)

	Page
1. Top cover and bottom cover	1- 2
2. Rewind mechanism	3- 4
3. Winding mechanism	5- 6
4. Film counter	7- 8
5. Lens mount and aperture coupling unit	9-12
6. Focusing screen	13-14
7. Mirror box assembly	15-16
8. Shutter assembly	17-18
9. Shutter control unit	19-20
10. Back cover	21-22
11. Meter system	23-24
12. Battery checker circuit	25-26

Parts list (to find out illustration Parts No.)

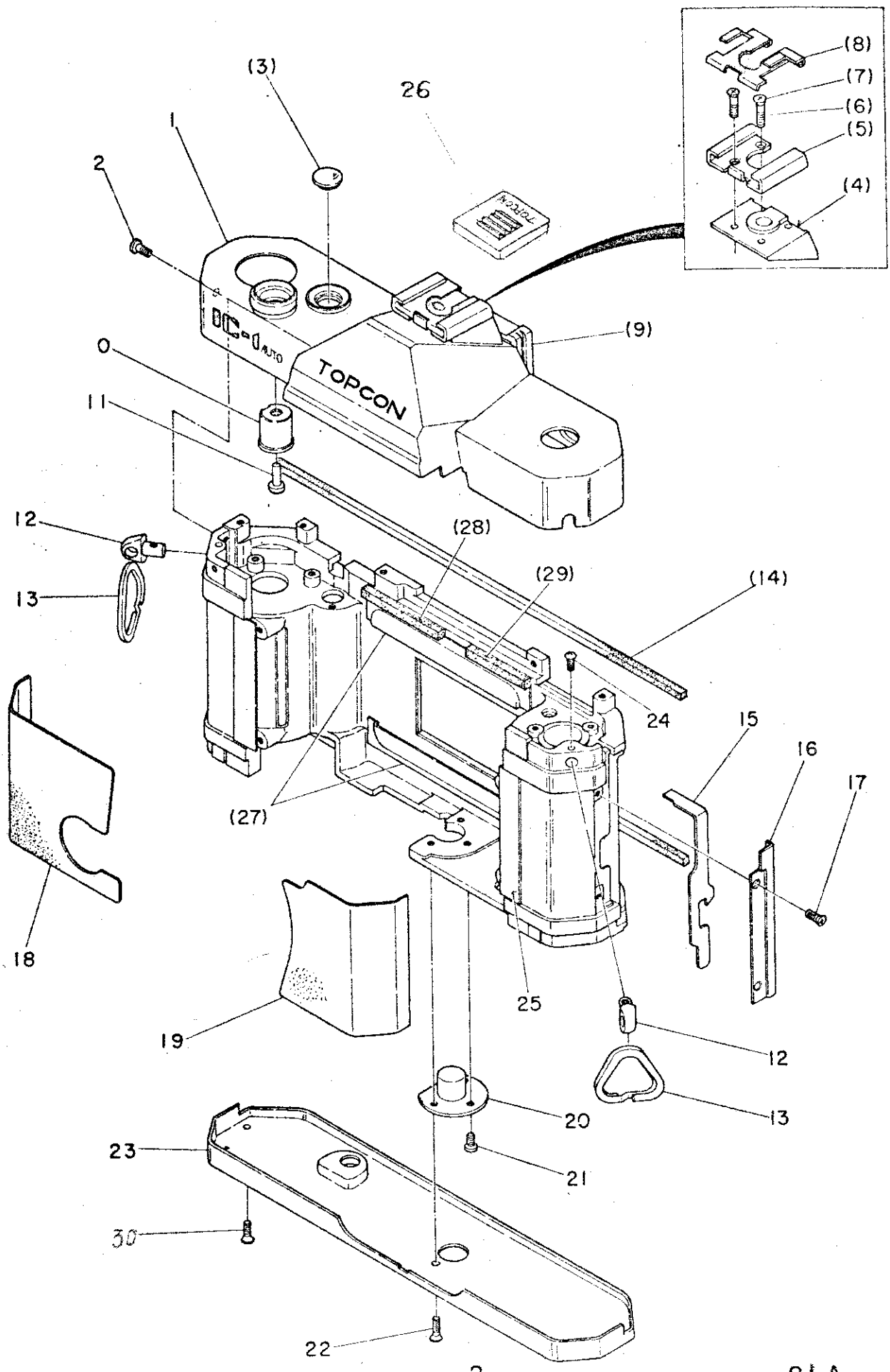
1. Glass parts	27
2. Original parts	28-32
3. Screw	33
4. Washer	34

NOTE

Always give Parts No. and Name when Ordering parts.

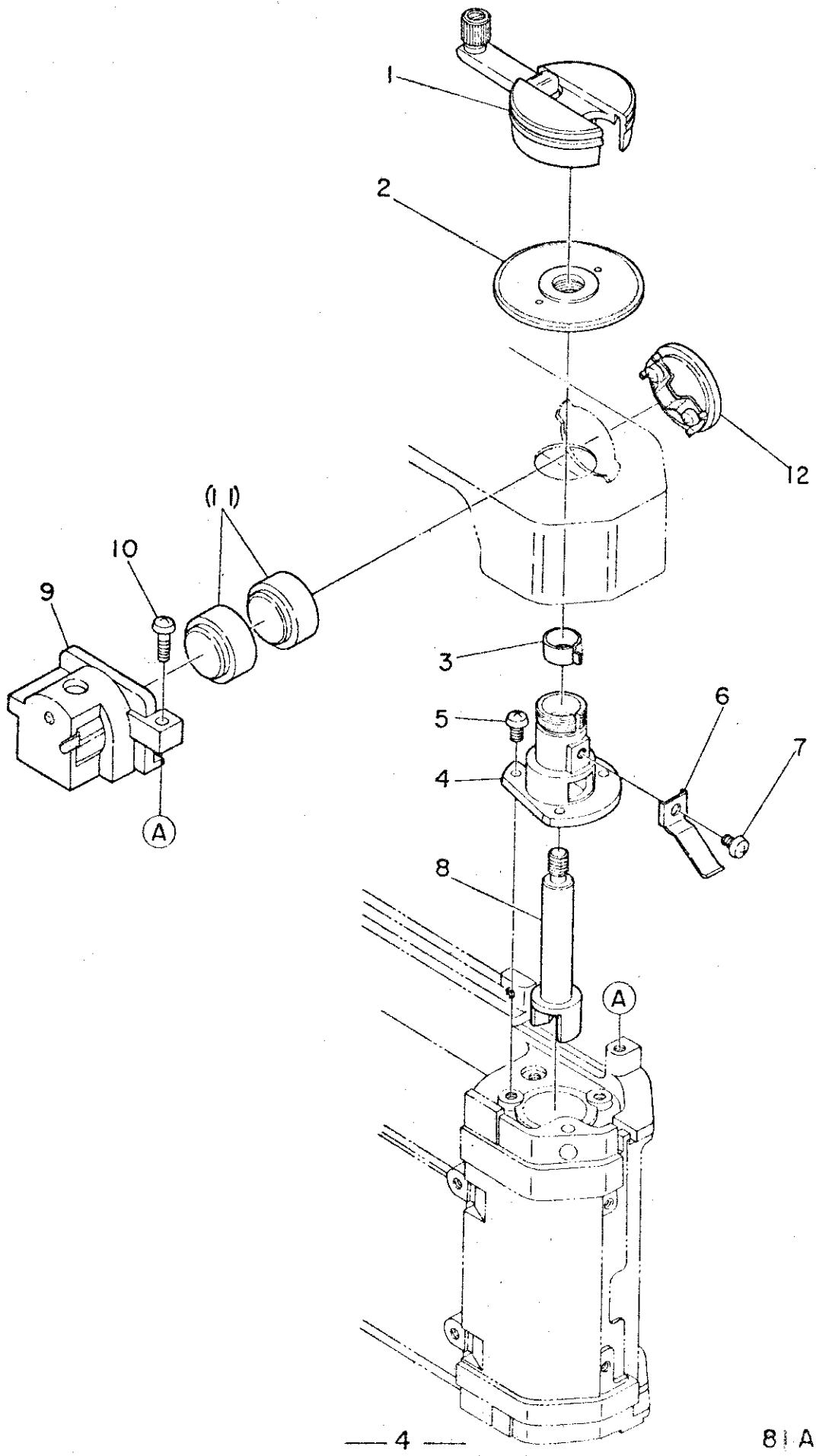
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 10020	Top cover ass'y	1		
2	CR1.7x2.5S BCr	Screw	2		
(3)	80A 1005	Counter window	1		
(4)	81A 1016	Accessory shore base	1		
(5)	68A 1014-1	Accessory shore	1		
(6)	CQsl.7x6S Ni	Screw	2		
(7)	CQsl.7x9 S Ni	Screw	2		
(8)	81A 1015	Shore spring	1		
(9)	80A 10090	Eyepiece ass'y	1		
10	80A 1004-4	Shutter botton	1		
11	80A 1012-1	Pin	1		
12	32A 1005-4	Shoulder strap lug	2		
13	68A 1041	Strap lug ring	2		
(14)	80A 1017	Moltplene	2		
15	80A 1011-1	Lock plate	1		
16	80A 1013	Cover	1		
17	CQsl.7x2.5S BNi	Screw	2		
18	81A 1014	Leather (left)	1		
19	81A 1015	Leather (right)	1		
20	80A 1008-2	Tripod socket	1		
21	CRsl.7x2.5S Ni	Screw	2		
22	CQsl.7x3.5S BCr	Screw	1		
23	80AE1006	Bottom cover	1		
24	CRsl.7x6S Ni	Screw	1		
25	80A 1018-1	Plate	2		
26	81A 1026	Accessory shore cover	1		
(27)	80A 1019-1	Cloth	2		
(28)	80A 1021-2	Moltplene	1		
(29)	80A 1022-2	Moltplene	1		
30	CQsl.7x2.5S BCr	Screw	2		
81AW					
1	81AW 10020	Top Cover Assy.	1		
2	CQ 1.7 x 2.5SCr	Screw	2		
22	CQs 1.7x3.5SCr	Screw	1		
23	80A 1006-1	Bottom Cover	1		
30	CQs 1.7x3.5SCr	Screw	2		

1. Top cover and bottom cover



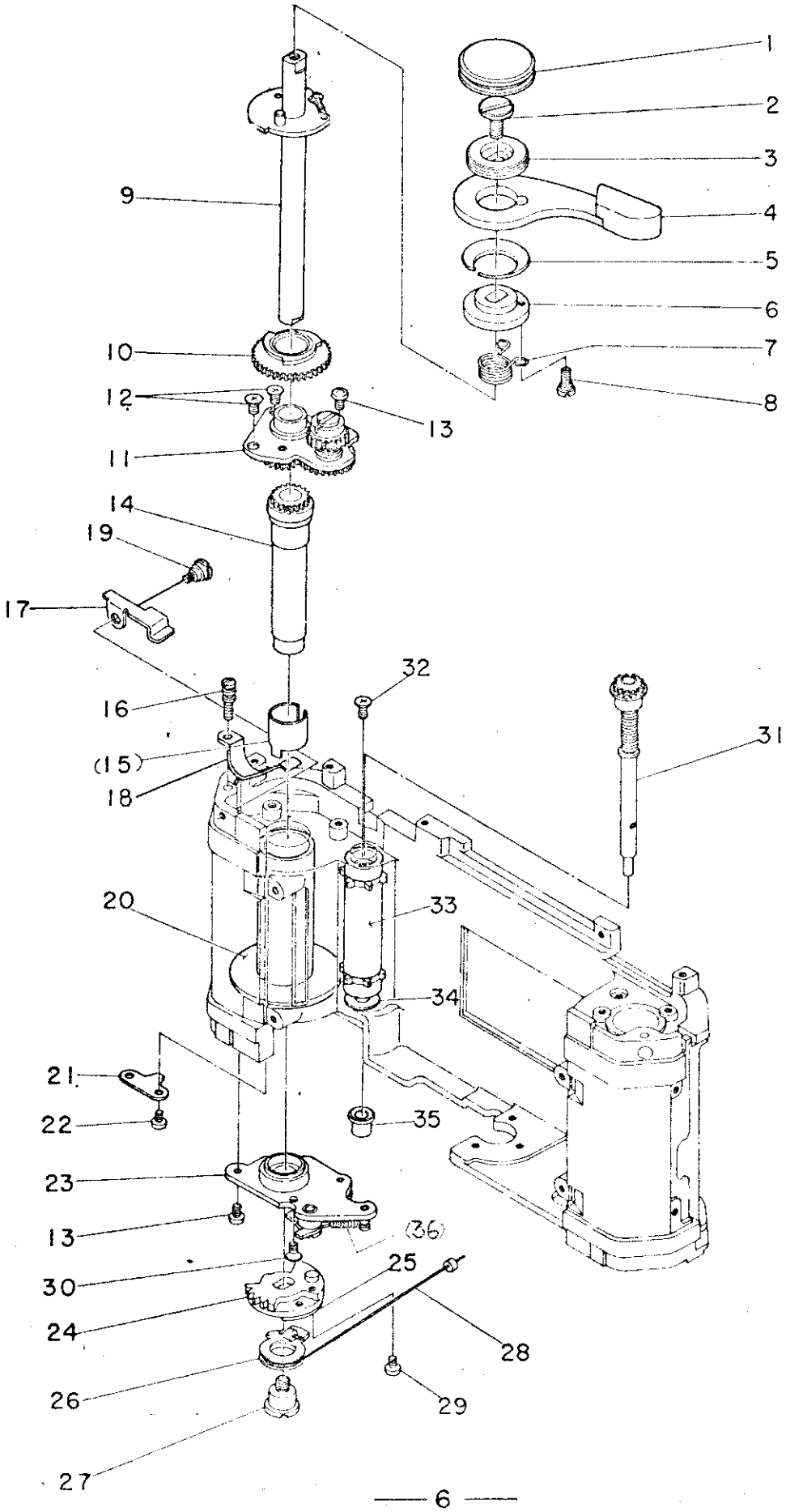
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 15120	Rewinding knob ass'y	1		
2	81A 1508	Nut	1		
3	81A 1509	Spring	1		
4	81A 1501	Rewinding base	1		
5	CR1.7x3.5S Ni	Screw	3		
6	80A 1507-3	Spring	1		
7	CR1.7x1.5S Ni	Screw	1		
8	80A 1502-2	Rewinding shaft	1		
9	81A 15030	Battery case	1		
10	CR1.7x6S Ni	Screw	1		
(11)		Battery	2		
12	81A 15050	Battery cap ass'y	1		
81AW					
2	81AW 1508	Nut	1		
12	81AW 15050	Battery Cap Assy.	1		

2. Rewind mechanism



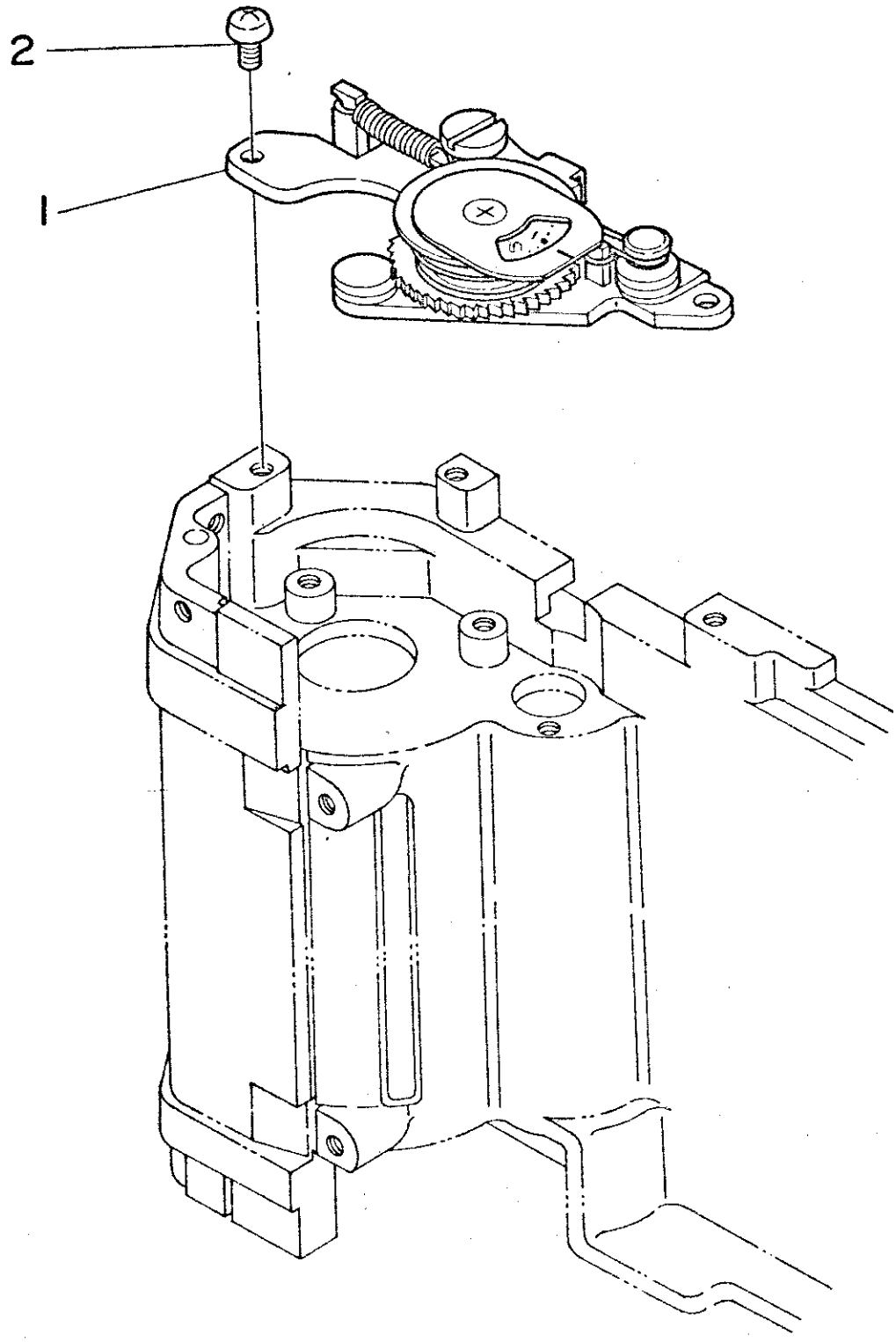
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 2033-2	Winding lever cap	1		
2	50A 2046-3	Screw	1		
3	80A 2032-3	Ring	1		
4	80AE 20360	Winding lever ass'y	1		
5	56A 2103	Spring washer	1		
6	80A 2029-4	Clutch	1		
7	80A 2076	Spring	1		
8	68A 2041-2	Screw	1		
9	80A 20210	Winding shaft ass'y	1		
10	80A 20050	Clutch gear ass'y	1		
11	80A 20100	Base and gear ass'y	1		
12	CQsl.7x4S Ni	Screw	2		
13	CRl.7x3.5S Ni	Screw	2		
14	80A 20220	Spool shaft ass'y	1		
(15)	80A 2018-1	Spring	1		
16	80A 2031-2	Screw	1		
17	80A 2047-4	Lever	1		
18	80A 2053-1	Spring	1		
19	80A 2071-3	Screw	1		
20	68AJ 2004	Spool	1		
21	80A 2079-1	Stopper	1		
22	CRl.7x4S Ni	Screw	2		
23	80A 20420	Base ass'y	1		
24	80A 20780	Crank plate ass'y	1		
25	80A 20520	Adjusting plate ass'y	1		
26	80A 20450	Pulley ass'y	1		
27	80A 2046-3	Screw	1		
28	80A 2073-4	Wire	1		
29	CRsl.7x3S Ni	Screw	2		
30	CQl.7x3S Ni	Screw	2		
31	80A 20240	Sprocket shaft ass'y	1		
32	CQsl.7x2.2S Ni	Screw	1		
33	68A 2018-2	Sprocket	1		
34	54A 2067	Washer	1		
35	80A 2055-1	Rewinding button	1		
(36)	68A 2056-2	Spring	1		
81AW 4	68AJ 20360	Winding Lever Assy.	1		

3. Winding mechanism



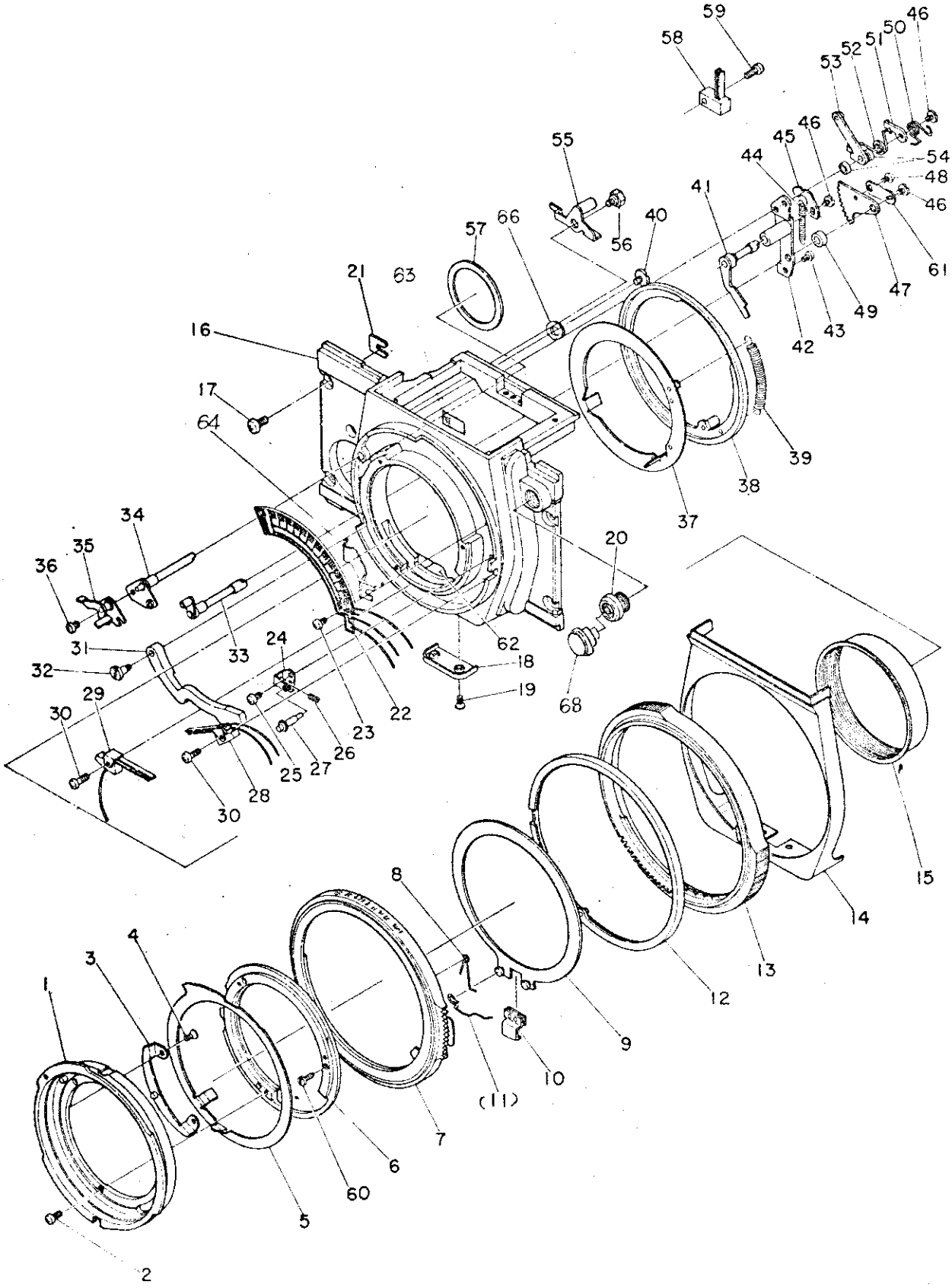
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 25000	Film counter ass'y	1		
2	CR1.7x4S Ni	Screw	3		

4. Film counter



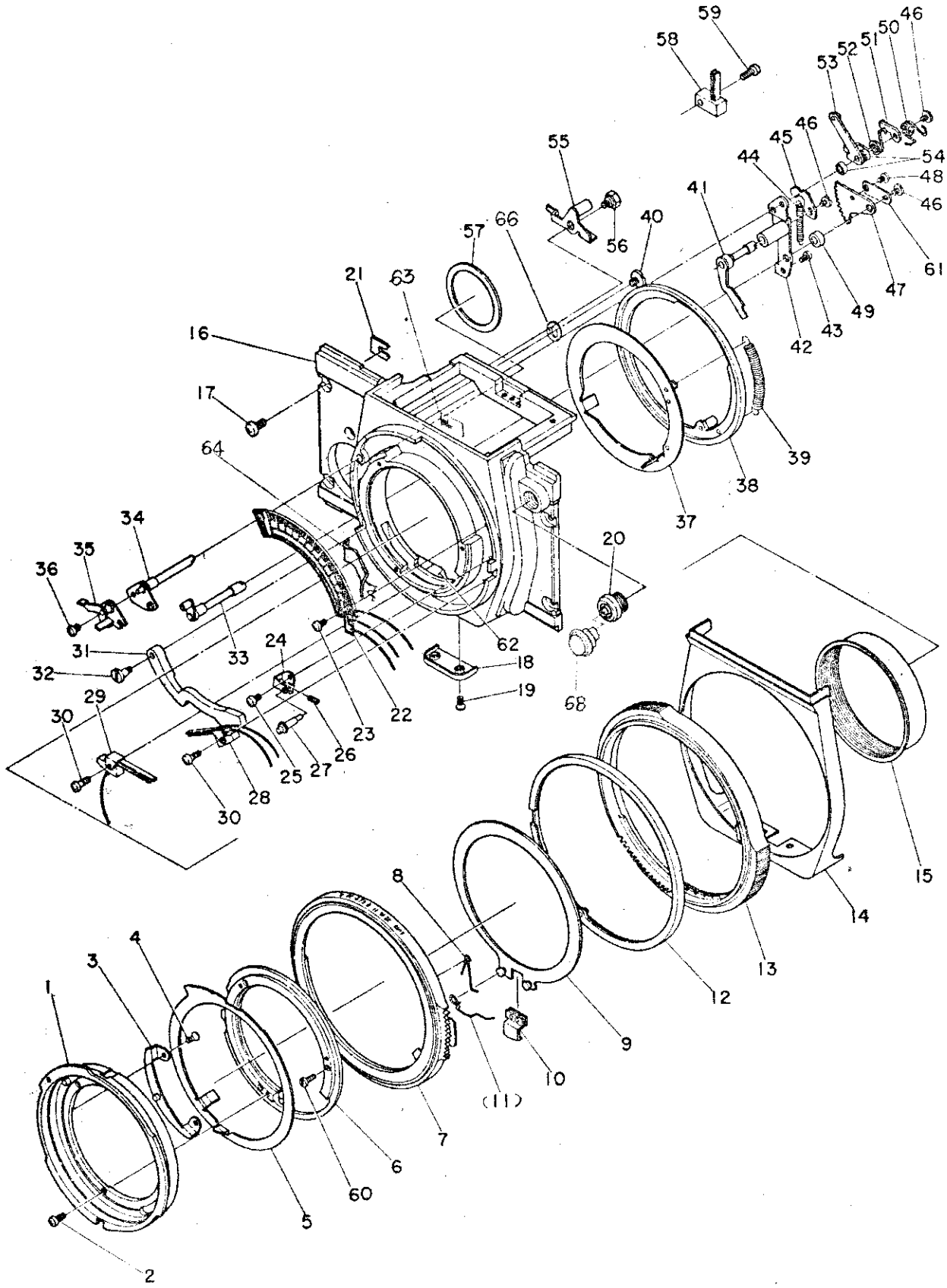
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 30080	Mount ass'y	1		
2	CRsl.7x2S Cr	Screw	3		
3	80A 30580	Spring ass'y	1		
4	50A 3064-1	Screw	2		
5	81A 3038	Diaphragm actuating ring	1		
6	80A 3002-1	Housing	1		
7	81A 30050	Diaphragm ring ass'y	1		
8	80A 3063-1	Spring	1		
9	80A 30390	Cam ring ass'y	1		
10	80A 30520	Film speed lever ass'y	1		
(11)	80A 3055-5	Spring	1		
12	80AE30490	Film speed ring ass'y	1		
13	81A 30040	Speed ring ass'y	1		
14	80AE30210	Front cover ass'y	1		
15	80A 3018	Cover	1		
16	80A 3001-5	Front base	1		
17	CR2x4S Ni	Screw	4		
18	80AE3023	Cover	1		
19	CQsl.7x3.5S Br	Screw	2		
20	68A 30130	Frash socket ass'y	1		
21	50A 3099	Washer			
22	81A 3009	Speed control resistance	1		
23	80A 3159	Screw	2		
24	80A 31540	Click spring plate ass'y	1		
25	CRl.4x2S Ni	Screw	2		
26	80A 3153-3	Spring	1		
27	80A 3151-5	Click pin	1		
28	81A 37600	Main switch	1		
29	81A 37700	Safe switch	1		
30	CRl.4x5S Ni	Screw	2		
31	80A 3077	Switch lever	1		
32	80A 3078	Screw	1		
33	80A 30440	Coupling shaft ass'y	1		
34	80A 30280	Adjust lever ass'y	1		
35	80A 30260	Coupling lever ass'y	1		
36	CRsl.4xl.6S Ni	Screw	1		
37	80A 31410	Mirror holding ring ass'y	1		

5. Lens mount and apertue coupring unit



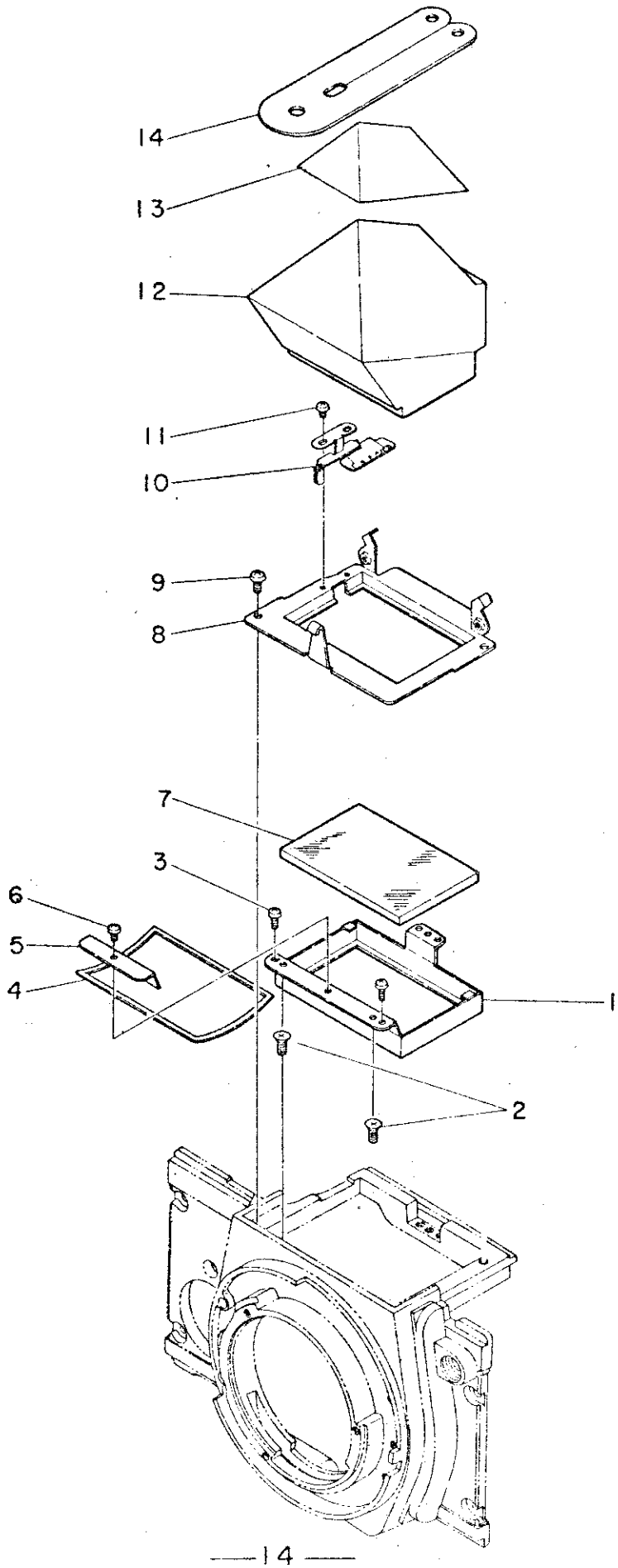
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
38	80A 31420	Set ring ass'y	1		
39	80A 3068-3	Spring	1		
40	80A 3165	Screw	4		
41	80A 30660	Starting lever ass'y	1		
42	80A 30190	Bearing and plate ass'y	1		
43	CR1.7x3S Ni	Screw	2		
44	80A 3024-3	Spring	1		
45	80A 3072	Lever	1		
46	80A 3069	Screw	3		
47	80A 3042-1	Partial gear	1		
48	CR1.4x1.8S Ni	Screw	1		
49	80A 3059-2	Ring	1		
50	80A 3034-2	Spring	1		
51	80A 3031-1	Lever	1		
52	80A 3033-2	Spring	1		
53	80A 30290	Connecting lever ass'y	1		
54	80A 3035	Ring	2		
55	80A 30130	Release lever ass'y	1		
56	80A 3011-2	Screw	1		
57	80A 3152	Moltplene	1		
58	81A 5106	B-switch	1		
59	CR1.7x5S Ni	Screw	1		
60	80A 3003	Screw	3		
61	80A 3147-1	Adjust plate	1		
62	80A 3155	Cloth	1		
63	80A 3161	Cloth	1		
64	80A 3158-1	Spring	1		
65	80A 3069	Screw	3		
66	80A 3166	Washer	4		
67	81A 3168	Tube	1		
68	81A 1028	Frash socket cover	1		
81AW					
12	80A 30490	Film Speed Ring Assy.	1		
13	81AW 30040	Speed Ring Assy.	1		
14	80A 30210	Front Cover Assy.	1		
18	80A 3023	Cover	1		
19	Cws 1.7x3.5Ser	Screw	2		

5. Lens mount and aperture coupring unit



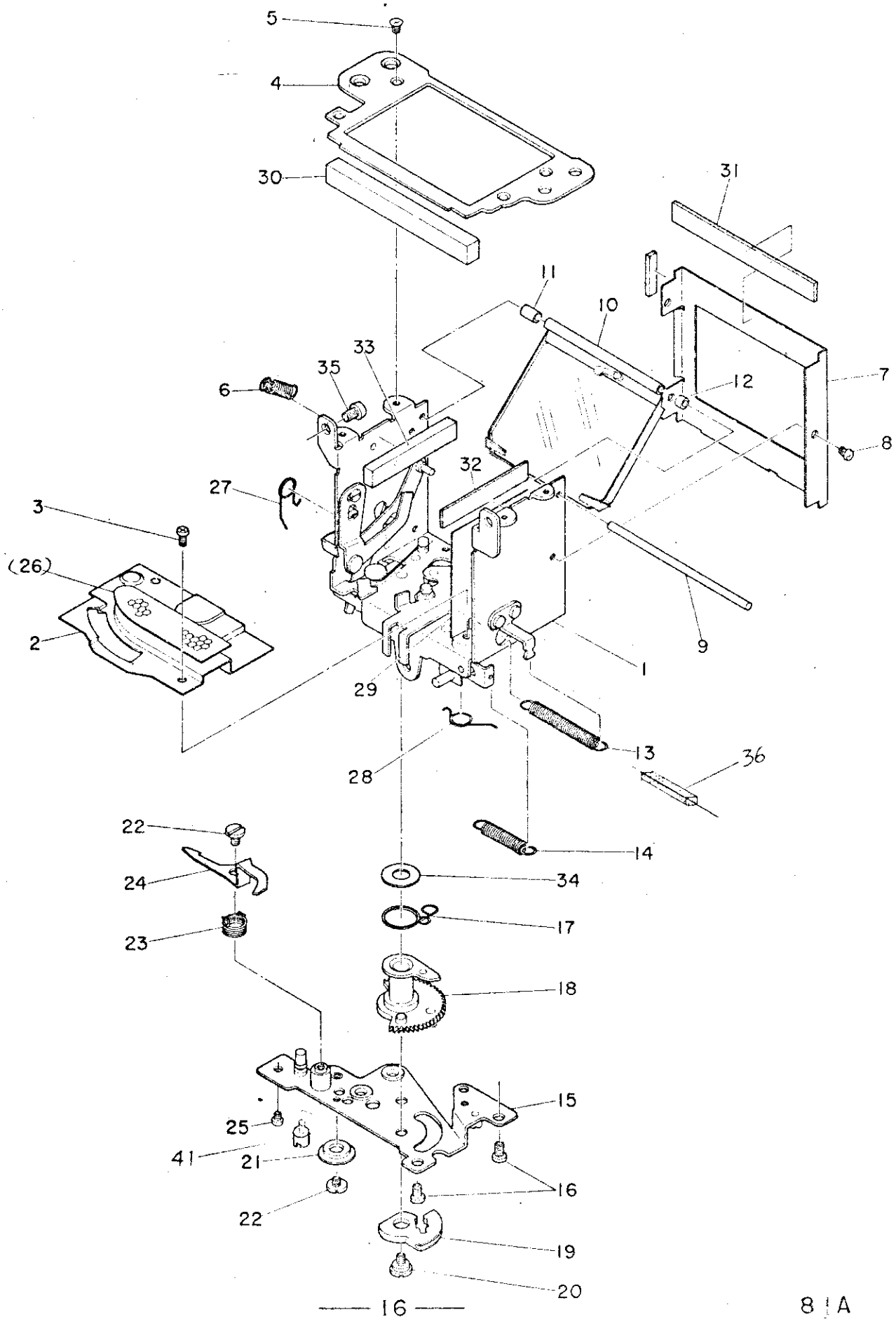
No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 3131-5	Finder flame	1		
2	CQ1.7x3.5S BZn	Screw	3		
3	CR1.7x3.5S BZn	Screw	4		
4	80A 3135-3	Spring	1		
5	80A 3136-2	Plate	1		
6	CRs1.4x2S Ni	Screw	1		
7	68A G8	Screen	1		
8	80A 3132-3	Penta holder	1		
9	CR1.7x3S BZn	Screw	2		
10	81A 31340	Exposure meter scale ass'y	1		
11	CR1.4x1.6S BZn	Screw	2		
12	68A G9	Penta prism	1		
14	68A 5076-2	Belt cap	1		
13	42A 1003-1	Penta cap	1		

6. Focusing screen



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 40010	Mirror box ass'y	1		
2	80A 40780	Plate ass'y	1		
3	CR1.4x3.5S BZn	Screw	2		
4	80A 40020	Upper base plate ass'y	1		
5	CQs1.4x2.5S BZn	Screw	4		
6	80A 4035-1	Spring	1		
7	80A 40460	Frame ass'y	1		
8	CRs1.4x1.6S Ni	Screw	1		
9	32A 4044-1	Mirror shaft	1		
10	80A 40900	Mirror plate ass'y	1		
11	80A 4047	Ring	1		
12	80A 4048	Ring	1		
13	80A 4019-3	Spring	1		
14	80A 4107	Spring	1		
15	80A 40060	Lower base plate ass'y	1		
16	CR1.7x2.5S Ni	Screw	2		
17	80A 4081-2	Spring	1		
18	80A 40330	Charge gear ass'y	1		
19	80A 4066-3	Pulley	1		
20	80A 4065	Screw	1		
21	80A 4067-1	Pulley	1		
22	80A 4068-3	Screw	2		
23	80A 4069	Spring	1		
24	80A 4042-3	Lever	1		
25	CRs1.7x3S Ni	Screw	1		
(26)	80A 4093-1	Paper	1		
27	80A 4096-1	Spring	1		
28	80A 4104	Spring	1		
29	80A 4094-4	Paper	1		
30	80A 4071-3	Moltplene	1		
31	80A 4072-3	Moltplene	1		
32	80A 4073-4	Moltplene	1		
33	80A 4074-3	Moltplene	1		
34	70W42002SUS	Washer	1		
35	CR2x4S Ni	Screw	3		
36	80A 4114-1	Moltplene	1		

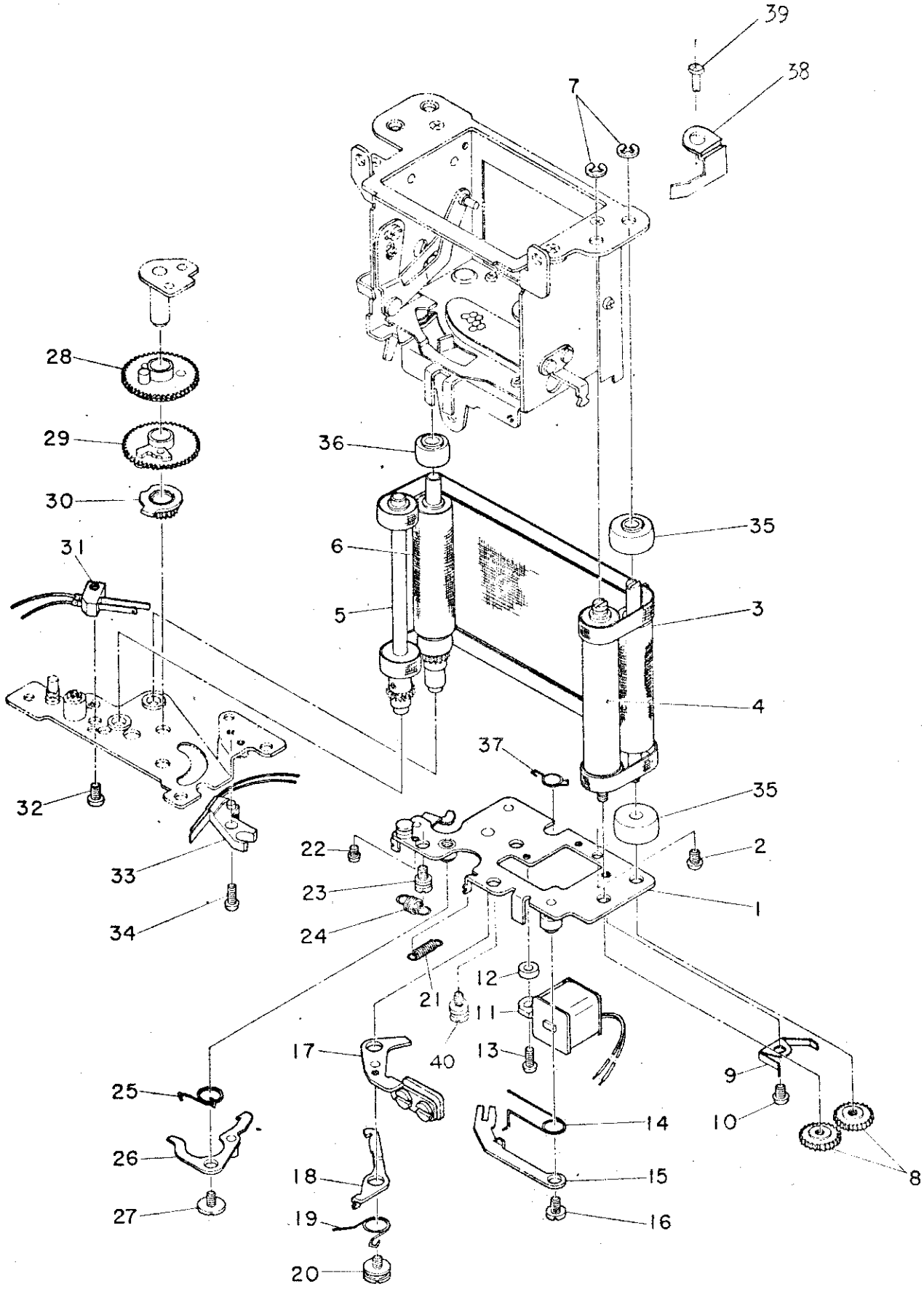
7. Mirror box assembly



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	80A 50320	Base plate ass'y	1		
2	CR1.7x2.5S Ni	Screw	2		
3	80A 51300	1st curtain ass'y	1		
4	80A 51400	2nd curtain ass'y	1		
5	80A 51210	1st main shaft ass'y	1		
6	80A 50220	2nd nain shaft ass'y	1		
7	E-20	E.ring	2		
8	32A 5082-3	Ratchet wheel	2		
9	80A 5055-1	Pawl	1		
10	CR1.7x2S Ni	Screw	1		
11	81A 51010	Electromagnet ass'y	1		
12	80A 5075-1	Ring	2		
13	CR1.4x4S Ni	Screw	2		
14	50A 5059	Spring	1		
15	80A 5027-3	Lever	1		
16	80A 5072-2	Screw	1		
17	80A 50330	Amateur lever ass'y	1		
18	80A 5031-5	2nd snaped lever	1		
19	80A 5056	Spring	1		
20	80A 5048	Screw	1		
21	80A 5062-1	Spring	1		
22	CR1.4x1.8S Ni	Screw	1		
23	80A 5127	Screw	1		
24	80A 5061-1	Spring	1		
25	80A 5057-2	Spring	1		
26	80A 51280	First snaped lever ass'y	1		
27	80A 5054	Screw	1		
28	80A 50380	1st internal gear ass'y	1		
29	80A 50390	2nd internal gear ass'y	1		
30	80A 50410	Set gear ass'y	1		
31	81A 5170	X-switch ass'y	1		
32	CR1.7x3S Ni	Screw	1		
33	81A 51110	Trigger switch ass'y	1		
34	CR1.7x4S Ni	Screw	1		
35	80A 5009-1	Pulley	2		
36	80A 5019-1	Pulley	1		
37	80A 5058-1	Spring	1		

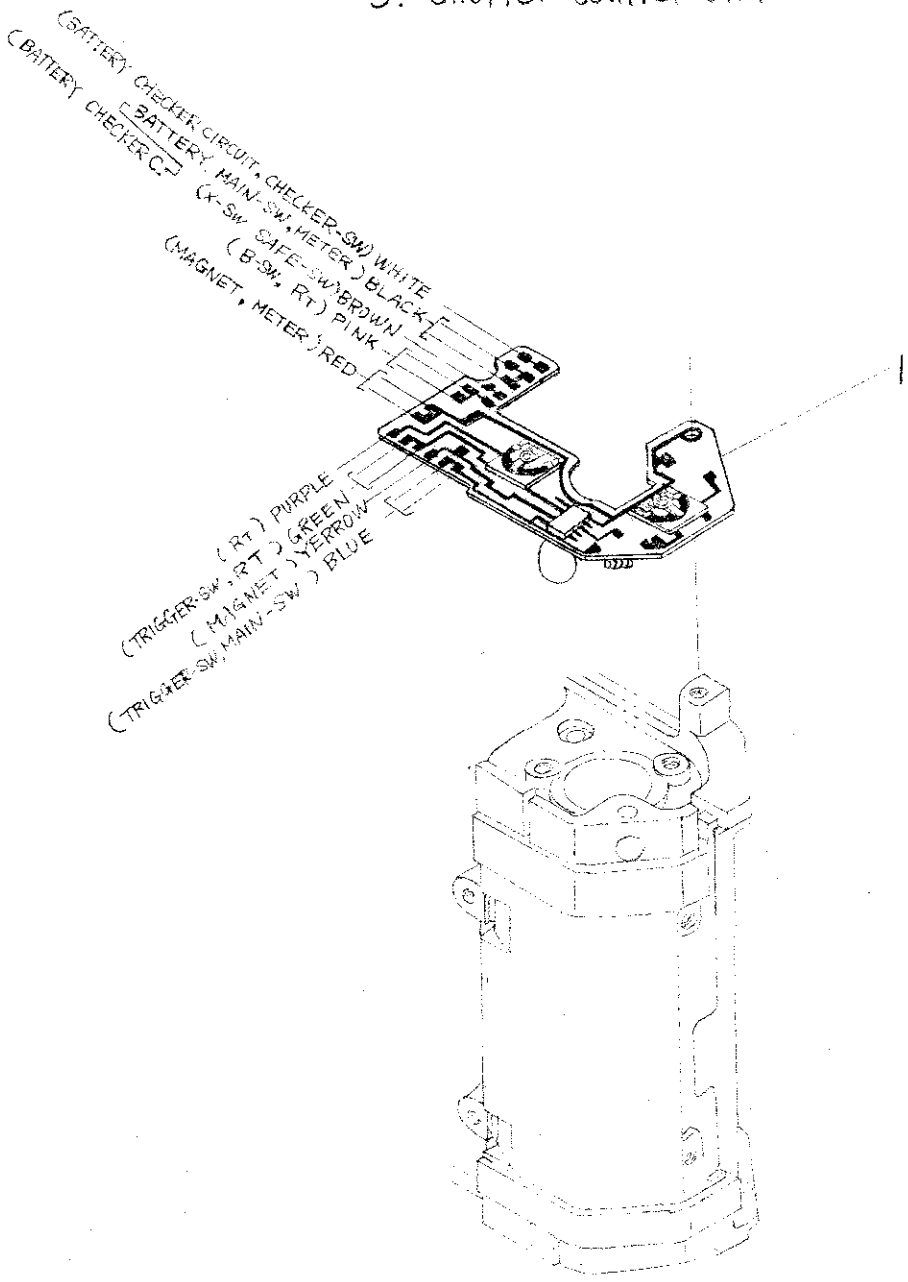
P.S. 38 80A 5126 , 39 CR1.7x2S Ni , 40 80A 5053-1 , 41 32A 1075-5

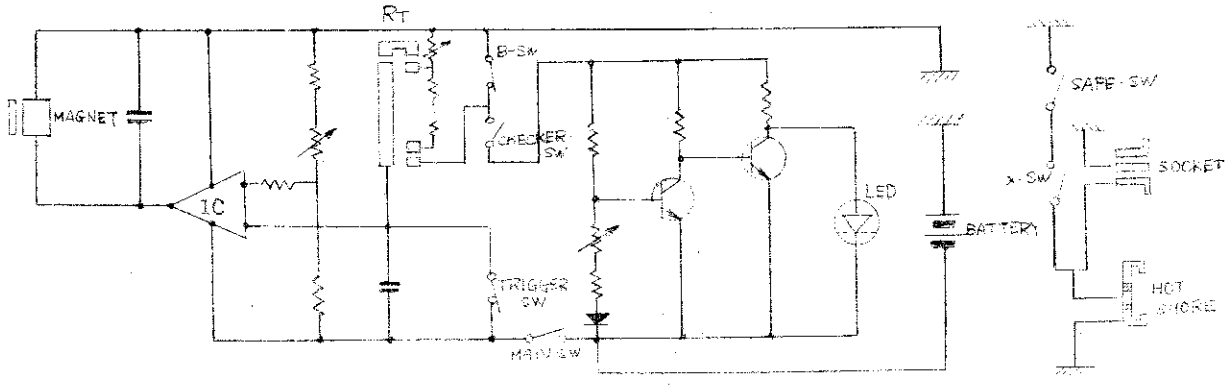
8. Shutter aseembly



No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 5500	Print plate	1		

9. Shutter control unit





No.	Parts No.	Parts Name	Q'ty	Price	Remarks
1	81A 60100	Back cover ass'y	1		
2	CQs1.7x2.5S BZn	Screw	2		
3	68A 60080	Pressure plate ass'y	1		
(4)	81A 6015-1	Leather	1		